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# Sensation and Intuition

James Sully

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# SENSATION AND INTUITION:

STUDIES IN

PSYCHOLOGY AND ÆSTHETICS.

# SENSATION AND INTUITION:

## STUDIES

IN

## PSYCHOLOGY AND ÆSTHETICS.

BY

JAMES SULLY, M.A.

AUTHOR OF

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# PREFACE.

ABOUT one half of the following essays are, in part, reproductions of articles which have already appeared in different reviews. The third, fourth and fifth papers are reprinted from the *Westminster Review*, the seventh, eighth and tenth from the *Fortnightly Review*, and the ninth from the *Contemporary Review*. In nearly every case considerable alterations and additions have been made, and three of the essays at least (those on Belief, the Free-will Doctrine, and Musical Form) may be regarded as new contributions. The remaining chapters of the volume have not been previously published.

The author would tender his best thanks to Professor Bain and to Mr. Herbert Spencer for their kindness in giving him fuller explanations of their published views. He would also express his obligations to Professor Bain, to the Rev. J. E. Odgers, M.A., and to Dr. Bartley, for their valuable assistance in the revision of the proof-sheets.

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# THE RELATION OF THE EVOLUTION HYPOTHESIS TO HUMAN PSYCHOLOGY.

PSYCHOLOGY holds a unique rank in the hierarchy of the sciences. It partakes both of the purely scientific attraction which belongs to the progressive expansion and arrangement of facts, and of that deeper charm that promises to invest for ever such themes as the limits of knowledge and the nature of the environing universe.

It is in its scientific aspect that psychology presents itself to the evolutionist. For his doctrine is quite independent of the metaphysical question of Idealism and Realism, being a philosophy of the universe, the highest formulation of our objective knowledge.* It affirms the existence of a certain order in the manifestation of material phenomena, and it may attach mental phenomena to this order by means of the vital link that holds together mind and body.

It is clear that this mode of treating mind will vary in certain important features from that adopted in the older human psychology. For, first of all, it leads one to view all successive manifestations of individual mind as one continuous phenomenon, and to seek for the antecedent of any habit or emotion just as easily in the psychical life of some remote parental race, as in the experiences and impressions of the same individual development. And, secondly, the evolutionist, instead of carrying on *pari passu* the process of subjective observation, and that of objective inquiry into the visible actions of other minds and the nervous conditions of their intelligence, has to confine his researches through a large part of his field to the objective side of the phenomena, the appeal to subjective knowledge being clearly precluded in dealing with the ideas and feelings of the lower animals.

This extended and "geological" conception of the mental world has

* This is well stated by Professor Fraser in his *Life and Letters of Berkeley* p. 376.

been made familiar by the writings of two distinguished living biologists. Mr. Herbert Spencer has recently rediscussed the phenomena of consciousness through all its manifested gradations in the animal series, affiliating his conclusions to his general system of evolutional ideas. In a less systematic manner Mr. Darwin has been led to discuss certain aspects of mental evolution, in connection with the origin of man, and with the phenomena of emotional expression. It is not my present object to seek to estimate either the ultimate credibility or the scientific worth of these new conceptions of organic development. Such a task will probably remain for several generations an impracticable one. Only when a vastly larger number of observations, physiological, ethnological, etc., have been collected will this very complex question be satisfactorily determined. These difficulties, however, do not appear to apply to another line of inquiry. What relation the evolution hypothesis bears to pre-existing psychology; what additional means it offers for elucidating the facts of human consciousness; and how far, if it be finally accepted as a verified truth, a distinct science of the human mind is desirable or even possible—these are questions which one may appropriately seek to determine before the theory of organic descent has received its final definition.

Considerable attention appears to have already been drawn to this question, and one may have observed signs both of an eagerness to thrust aside the older psychology, in order to make way for the proud progress of the new doctrine, and, on the other side, of an unwillingness to lend a hearing to the younger philosophy of life, because of its supposed incompatibility with ancient methods of investigating the human mind. Possibly it may be seen, after a closer examination of the facts, that neither path of investigation really interferes with the other or renders the use of it superfluous.

What, then, is the problem in the psychology of the individual mind? Seemingly, to trace out the laws of its growth, to formulate the processes by which sensations aggregate, now into the ideas, now into the emotions of mature life, and by which the crude impulses of youthful spontaneity pass into the calm far-reaching resolutions of manhood. Now it is surely conceivable that these processes are not susceptible of complete explanation if studied by themselves. Every new individual, it may be said, possesses at birth a certain type of organism with a particular form of nervous and cerebral structure more or less definitely fixed, and probably, too, a number of predispositions to certain habits of thought and

action. If so, it would appear to follow that the whole progress of the individual mind is modified by the action of forces whose origin must be looked for outside the boundaries of the individual life, in the inherited results of ancestral experiences. That a mental predisposition can be thus inherited, will at once be allowed by all who have clearly grasped the meaning of the intimate connection of mind and body.* If, as is asserted, a young monkey shows terror at first sight of a snake, one must admit that this vague sense of dread is as much passed on from parent to offspring as an unmistakable similarity of features. If once the postulate be conceded that all mental phenomena are contained, potentially, in the fine tissues of the brain, it becomes easy to conceive how the new system of precisely similar plexuses of fibres and cells thrown off in the act of reproduction should carry with it definite possibilities of feeling and thought. And if so, is it not probable that the psychologist who is bent on discovering the laws of growth in the individual mind, will need to go back again and again to this primitive fountain of conscious life?

The thoughtful student of the human mind will readily admit that, in deriving the complex and later growths of an individual consciousness from its simpler and earlier forms, he has to take much for granted. That the infant at birth possesses a nervous structure fitted to receive a definite order of impressions, and an incipient arrangement of cerebral ganglion and nerve-filament favouring certain modes of combination among impressions, will be readily believed, even though one feels incapable of determining the precise nature and extent of these connate conditions.† So, again, one will admit that in respect to the lower regions of human consciousness, the instincts and appetites, no explanation is possible without a reference to the laws of organic descent. Finally, an impartial inquirer will allow that even in the higher regions of individual consciousness, modes of feeling present themselves, which

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* See Mr. Spalding's essay on *Instinct* in *Macmillan's Magazine* for February, 1873.

† An interesting example of the mode in which biological research may help one to understand the coexistences of mental life, has been supplied by Mr. Spencer in his speculations on the genesis of pleasures and pains. He argues that whatever the ultimate physiological conditions of these opposite mental states may be, processes of natural selection must have tended to connect pleasurable feelings with conditions of organism and actions beneficial to the individual life, and painful feelings with the opposites of these.

cannot be wholly attributed either to the action of certain stimuli on peculiar varieties of sensory nerve, or to the faint revivals of many concurring impressions previously experienced by the individual, but which appear to owe their origin to some congenital peculiarities of the cerebral structure. Thus there appear to lie hidden, in all the more passionate emotions, as love, terror and anger, ingredients which cannot be traced to any confluence of past sensations of the same individual. For example, it is easy to see that the vague terror which a child displays before a menacing danger is very unlike any feeling manifested during its actual experiences of similar evils; and it is very probable, as Mr. Spencer suggests, that children may even manifest dread in circumstances which clearly can call up no recollection of past individual sufferings. Now, however difficult it may be to mark off this bequeathed part of the infant's mental furniture from its own subsequent acquisitions, yet, if there is a strong presumption that a considerable quantity of it lies hidden away in the infant's cerebral structures, the psychologist is clearly under an obligation to allow for it.

The evolution hypothesis undertakes to throw light on each of these classes of connate conditions. It seeks to give us a reason, in the peculiar processes of animal development from lower to higher types, for the complex nervous structure which we find in the new-born child; and it endeavours to trace back those mental phenomena which seem wholly unconnected with the individual's experience to innumerable experiences of distant progenitors, transmitted to the new individual as innate dispositions and forms of thought.

With respect to the processes by which the nervous system of man has been slowly built up, much has been written by both the leading expounders of the evolution doctrine. It follows, of course, from Mr. Darwin's law of natural selection that any accidental variations in the direction of a finer sensory or motor apparatus, or of a more complex cerebral organization, would be favoured and increased through the advantages accruing to the possessors of these peculiarities. Mr. Darwin appears, too, to admit the probability that, through the accumulated reactions of function on organ, every species would be susceptible of a slow and limited increase of intelligence and accompanying cerebral power, so that each new individual would tend to possess a slightly higher innate capacity. Mr. Spencer, again, has sought, with very great fulness and elaborateness, to apply the evolution hypothesis to the origin of the higher nervous structures. In the *Principles of Biology*, and, in a slightly

different form, in the new edition of the *Principles of Psychology*, he has presented us with a very ingenious chain of deductive argument, by which he attempts to derive the successive developments of the nervous system from certain hypotheses respecting molecular action. Setting out with the simplest type of animal organism, he argues that the continued action of an external force on any part of the living tissue will, according to the law that motion follows the line of least resistance, at last produce the particular arrangement of homogeneous unstable molecules which is supposed to constitute a nervous fibre. A similar line of reasoning is employed to account for the genesis of the simplest conceivable nervous system, that is, a medium for transmitting an initial stimulus to a contractile tissue located in a distant part of the organism. Again, Mr. Spencer has offered some curious speculations respecting the gradual differentiation of the several senses from a simple primitive mode of sensibility; and as a counterpart to these he brings forward, in connection with the subject of the substance of mind, a hypothesis by which all varieties of sensation may be derived from a primitive unit of conscious life, namely the vague feeling accompanying a nervous shock. It has been well known, since the researches of Müller, that each class of nervous fibres has, as its distinguishing and unalterable function, the mediation of a definite variety of sensation; and Mr. Spencer seeks to account for this fact by the supposition that the peculiar structure of each order of nerves determines a certain combination of those simple vibrations which are the physical correlatives of the most rudimentary states of feeling.

The hypothesis of evolution, besides explaining the general nervous conditions of mental phenomena in the human organism, seeks to account for some of those modes of feeling which, as observed, do not appear to be the effects of causes acting within the limits of the individual life. And this it does, as I have hinted, by help of the theory of hereditary transmission. According to this hypothesis, a man's experiences and habits, while they distinctly modify his own cerebral structure and mental capacity, tend also to modify those of his offspring. Hence it is fairly certain that if these processes of hereditary transmission have been going on through countless generations of the human race, every infant now born into the world receives along with its primitive nervous organization a very decided and powerful moral bent, whether it be as a predisposition to certain modes of conception, or as an instinctive

force of emotional susceptibility in particular directions. Not only so, but if we suppose man to have been gradually evolved from less highly organized species, it becomes highly probable that influences which can be seen to have acted on whole species, man included, have left behind them a yet deeper impress in the innate mental structure of a nineteenth century boy or girl.

Examples of this mode of explaining obscure facts of the human mind are offered both by Mr. Spencer and by Mr. Darwin. Thus, for example, the former supposes that a child is now born with some vague notions of space and time. The experiences of many races have, he thinks, served so uniformly to connect visual sensations with certain facts of distance and direction, that it is highly probable an infant's first impressions of colour awaken a dim consciousness of these spatial relations. In like manner, both Mr. Spencer and Mr. Darwin refer elements in the moral and æsthetic emotions of man to the transmitted effects of countless experiences.

"Angry looks and harsh tones" says Mr. Spencer "cause a child to cry, while its nurse's smiles and caressing voice awaken a smile; . . . simply because, in the past experiences of the race, smiles and gentle tones in those around have been habitual accompaniments of pleasurable feelings; while pains of many kinds, immediate and remote, have been continually associated with the impressions received from knit brows and set teeth and grating voice. Much deeper down than the history of mankind must we go to find the beginnings of these connections. The appearances and sounds which excite in the infant a vague dread, indicate danger; and do so because they are the physiological accompaniments of destructive action—some of them common to man and inferior mammals, as every puppy shows us" (*Principles of Psychology*, vol. ii., p. 596).

Again, Mr. Darwin conceives that the first rudimentary form of conscience may be detected in the lower animals. Social impulses appear to be instinctive in many species. These would lead its members to take pleasure in the society of their companions, to manifest sympathy and to render mutual services. When the mental faculties became sufficiently developed, and images of past actions and motives were incessantly passing through the brain, a feeling of dissatisfaction would arise "as often as it was perceived that the enduring and always present social instinct had yielded to some other instinct at the time stronger, but neither enduring in its nature, nor leaving behind it a very vivid impression" (*Descent of Man*, vol. i., p. 72). These instinctive feelings, which constitute, according to Mr. Darwin, the very essence of conscience, would, he thinks, receive their direction from public opinion as soon as

the society had acquired the means of communicating their ideas.*

As instances of the derivation of an æsthetic feeling from ancestral and prehuman experiences, I may refer to the theories of musical expression proposed by Mr. Spencer and Mr. Darwin. The former holds that the characteristic depth and vagueness of the sentiments awakened by musical tones are due to myriads of associations with the voice, vocal cries having been the commonest mode of expressing emotion throughout the progress of animal development. Mr. Darwin, on the other hand, refers this phenomenon more especially to associations of vocal sound and deep sexual emotion built up during the courtships of unnumbered species.

Now one can easily conceive a person raising the question: Does not the admission of this method of resolving mental phenomena into long series of impressions in many individuals and races, preclude all separate study of the human mind? If it is necessary, in order to understand fully all the facts of a single mental history, to review intricate processes of organic growth through vast cycles of the dimly visible past, of what value is it to study the human mind according to the old method, that is by conceiving it as so many independent groups of phenomena?

A very little reflection will show that this objection is but another form of the older one more than once urged against the study of mind apart from the whole mass of biological phenomena. The mind, it has been said, is at all points conditioned by the state of the brain. This organ, again, as a constituent in an aggregate of continuous and interdependent parts, is liable to be affected by a large number of changes in other parts of the body. Thus, in order to account completely for any single mental phenomenon, one would require, strictly speaking, to know the precise state of health of the individual at the time, and more particularly the general vigour of the circulation. Yet while admitting all this, the psychologist has never found in it any practical obstacle to the study of mental phenomena apart from such physiological influences. By simply assuming a normal action of the bodily organs he is able to trace out the laws of sequence and coexistence in the mental world, just as though it were wholly detached from these bodily conditions. Nay more, a large part of mental phenomena have to be studied

* The precise value of this solution of the ethical problem will be spoken of by-and-by.

quite apart from those cerebral processes which are known to be their immediate physical accompaniments, the observation of these hidden nervous changes being as yet impracticable.

In a very similar way one may meet the objection to a separate study of the individual human mind. It may, no doubt, be true that the original nervous structures of the human organism are the result of long and elaborate processes of evolution, and that many of the modes of feeling actually presenting themselves in the history of mankind are only capable of being interpreted as the transmitted quintessence, so to speak, of ancestral experiences. Yet, it must be admitted even by the evolutionist, that at least a considerable number of mental phenomena are susceptible of explanation by means of processes observable within the individual life. Mr. Darwin tells us "it is a significant fact, that the more the habits of any particular animal are studied by a naturalist, the more he attributes to reason and the less to unlearnt instincts."* And one may perhaps add that the deeper one's study of the human mind penetrates, the less room will there appear for the play of inherited idea or of instinctive action. It frequently strikes one that Mr. Spencer is not quite sufficiently impressed with the vast scope for psychological explanation which the recurring impressions of individual experience afford. By setting out with the data of a definite nervous organism in man, special susceptibilities in the various sensory nerves, and a few well ascertained instinctive tendencies of the nervous constitution, it seems possible for the inquirer to carry on his investigation into the rise and progress of feelings and ideas in the individual mind, just as though there were no such thing as reproduction or inheritance. Thus, by assuming that certain modes of external stimulation acting on the periphery of particular varieties of nervous fibre, produce distinct orders of sensation, those of colour, tone, and so on, it is possible to explain the growth of the perceptions of the external world, and from these, together with a number of similar mental phenomena, to arrive at universal laws of association.

While the separate study of the facts of human consciousness is thus seen to be logically possible, it may be added that it is highly desirable in the interests of the science to make this separation. Mr. Spencer has supplied us with excellent reasons for the study of mind apart from the larger subject of organism and life, of which it may, in a sense, be regarded as a part. He finds in the dis-

* *Descent of Man*, vol. i., p. 46.

tinguishing character of consciousness, as subjective knowledge, something that separates it by a vast interval from all material phenomena. And these considerations, it may be added, apply with almost equal force to the separate investigation of the human mind. For it is clear that no mental facts lying outside the limits of human consciousness are directly knowable to us in their subjective aspects. From which it follows that a study of the lower animals, however fitted to suggest the first genesis of mental faculties, cannot directly subserve the kind of analysis of them with which the student of the human mind most concerns himself.

Once more, it may be said that the facts to be collected and analyzed in this department of inquiry are of sufficient complexity and intricacy to justify the erection of them into a separate science. How far psychologists are, even now, from agreeing upon the cardinal distinctions in mental analysis, may be gathered from Mr. Spencer's own interesting work. Thus, for example, the fact that he proposes to do away with the long-esteemed principle of contiguous association, and to bring all processes of mental combination under one law, namely, that present feelings and their relations tend to re-instate their like in consciousness, appears to show that there is still ample room for re-observations, and improved discussions of subjective processes.

Again, it may be well to remind ourselves of the fact that it is only after the human mind, as one great factor in all knowledge, has been accurately analyzed, and its laws precisely formulated, that any other science receives a definite basis. Logic is no doubt distinct from psychology, and it may be said that psychological, like all other inference, can only be certain in proportion as logical method becomes exact. Still it must be conceded that the more accurate we make our study of the psychological conditions of thought, the more exact will be our logical theories and our scientific methods.

In addition to these scientific considerations, there are others of a more practical character which equally favour the independent investigation of the more complex facts of human consciousness. Thus, for example, it seems pretty evident that this great branch of psychology must continue to furnish all valid rules of education and of social and political action. In order to understand the conditions which determine the effects of men's conduct on their fellow-men, it is before all other things needful to study the laws according to which changes of individual sentiment and character are brought about. A complete account of all the remote influences

of political measures might probably involve a recognition of the phenomena of transmitted impulses and habits. But what is of immediate urgency, is to know how the native capacities of the present and proximate generations may be made the most of, by the appliances of social restraint and stimulus. How far we still are from possessing the requisite psychological data for wise political action, may be seen by the fact that competent writers like Mr. Spencer are even now debating the old Platonic problem respecting the relation of intellectual discipline to moral attainments.*

From all these considerations it appears not only lawful but highly desirable to discover and record, in the exactest manner possible, the laws by which the ideas and sentiments of the individual human mind are gradually built up out of the elementary materials of its experience. To the psychologist who undertakes this, such questions as when and how the peculiar nervous organization of man was developed, are clearly of no immediate importance. Any solution of these questions could throw only a very oblique ray of light on his own peculiar problems. Further, our comprehension of the exact nature of a human faculty, as memory, would not be directly aided by the discovery, that it first appeared at a certain point in the general progress of animal life from simple and homogeneous, to complex and heterogeneous actions. Nor should we be likely to derive any considerable light for the investigation of processes of human thought and feeling by accepting the ingenious doctrine of Mr. Spencer, that all orders of sensations are variously-combined groups of some ultimate unit of consciousness. However interesting such a hypothesis must be, one does not see that it would make a sensation of colour or of sound any the more easy of conception. How it is that a particular combination of nervous shocks becomes a sensation of blue while another becomes a sensation of musical tone, is as great an enigma as the question, why the stimulation of one specific nerve produces the one sensation while that of another, structurally different, produces the other. Indeed one might easily object that the primitive nervous shock, having no distinctive character as a sound, colour, or touch, is scarcely conceivable to the human mind as a subjective feeling, and cannot, therefore, greatly help us to understand the nature of sensation.

On the other hand, it must be admitted that the student of the

* See Mr. Spencer's *Study of Sociology* and some able criticisms of these views by Mr. John Morley in his *Struggle for National Education.*

human mind will need to confront the hypothesis of evolution, when he examines those phenomena in which definite varieties of feeling are said to be transmitted as hereditary associations. The process here assumed, though, from a biological point of view, precisely like that by which a nervous sensibility is said to be transmitted, differs from the other in its psychological significance. It clearly supplies us with some simpler homogeneous antecedent to a mental phenomenon, and the study of this antecedent, though it does not present itself in the mental development of the same individual subject, may still contribute to proper psychological analysis. The duty of the inquirer, in respect to all hypotheses of inherited forms of thought or emotional associations, is obviously to exhaust first of all the resources of analytic explanation as applied to the known elements of individual experience. Where a phenomenon seems to him fully explicable as the result of previous impressions of individual experience, transformed and combined according to well-ascertained mental laws, he will certainly, on the wise principle of paucity, ignore all hypotheses of hereditary acquisition. Thus, for instance, it is far from improbable that a fuller investigation of the processes by which our conceptions of space are built up, will render superfluous the supposition of their innateness.* Indeed a reader of Mr. Spencer's works can hardly fail to be surprised at his calling in the aid of the hypothesis of ancestral transmission in cases where he himself very ingeniously suggests an adequate source of the idea or sentiment in processes going on in the course of individual experience.†

The psychology of the human mind consists, it may be said, of two parts which have not, perhaps, been sufficiently distinguished. There is, first of all, what may be called Abstract Psychology, which establishes the final classification of mental phenomena, and formulates the general laws of their sequence and combination as observable in the course of individual mental development, and with the assistance of direct subjective reflection; and it follows from what has been said, that this part of the inquiry may be carried on apart from considerations of hereditary transmission and innate mental peculiarities.‡ Secondly, subordinate to this first

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* See the following Essay, *German Experiments with Sensation.*

† For example, in tracing out the growth of the ideas of Extension, and the origin of the distinction between Subject and Object.

‡ On the supposition of human evolution, there is of course another depart-

there is the department of Concrete Psychology, which discusses the growth of specific and individual varieties of idea and emotion, applying the general laws of mental change to certain orders of elementary facts and their combinations. Under this branch there should fall the discussion of all such subjects as the origin of the belief in the external world, and the processes by which the moral sentiments and other emotions reach their present forms. Now in connection with this branch of inquiry, it will be necessary to consider the variable influences at work on men's minds in different ages, countries, and states of society, as well as differences of natural capacity. If, for example, the phenomenon under investigation is some æsthetic emotion, found only among a comparatively few nationalities in the higher culture, it will be desirable to define the social or other surroundings necessary to the appearance and development of the sentiment, as well as the order of natural temperament to which it is commonly allied. Not only so, but it will be necessary to recognise the curious fact that many forms of emotion begin to manifest themselves in intensity at particular stages of individual development, for example with the arrival of puberty. And here, too, the question of transmitted feeling will have to be dealt with. If for example, as has been suggested before, some of the elements of the simpler emotions are referable to the transmitted residuum of many ages of pleasurable and painful experience, this factor must be recognised and allowed for in any adequate analysis of the emotions. And in this way, the psychologist, when satisfied of the presence of distinct mental phenomena not traceable to the action of his own laws, will gratefully avail himself of the additional hypothesis supplied to him by the philosopher of evolution.*

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ment of abstract psychology, namely, that which seeks to determine the general laws of hereditary transmission, and of the progressive modification of mind. Yet this branch of the science, depending as it does on a knowledge of the most intricate biological processes, and incapable of proceeding by subjective observation, will probably continue to be sharply distinguished from the abstract psychology of which I am speaking in the text.

* It is possible that a recognition of this distinction between abstract and concrete human psychology may help us to solve a question recently raised by Mr. Lewes in his *Problems of Life and Mind*, namely, that of the dependence of psychology on sociological data. According to the above conception, abstract psychology is independent of these data. Without doubt, the development of the human mind, in its serial aspect, may have involved the reciprocal action of individual on individual, and of society on society. But all such actions

From these considerations, it appears that, even supposing the evolution doctrine to be well ascertained and verified, one may still with very considerable advantage carry on a separate study of the human mind in its individual manifestations. And I may now add that this practical conclusion is powerfully supported by an examination of the susceptibility of the hypothesis of direct and precise application in the field of mental phenomena. Without attempting to estimate the accumulative evidence brought forward in favour of the hypothesis of organic evolution, I may just call attention to one or two of the characteristic difficulties of applying the theory to the hereditary re-appearance of a mental feature in a new individual.

Thus, for example, there appear at times to be no means of detecting any signs of a transmitted feeling, when it is not definitely united with some particular mode of action. The instincts of the lower animals are for the most part easily established, because they present themselves under the conspicuous aspect of a definite connection between impressions and actions, and antecedently to those experiences which are fitted to produce them. It is no doubt possible to prove or disprove the assertion that certain impressions on the retina of a newly-hatched chicken are already co-ordinated, through an inherited organic arrangement, with definite combinations of particular muscles, so that the tiny creature is able at once to peck with correct aim at the finest particles. Similarly, one would say, there can be no difficulty in ascertaining whether, in the case of a young ape, the sight of a destructive snake is from the first associated, through congenital peculiarities of cerebral structure, with a sense of uneasiness or with terror. But when one has to deal with the *soi-disant* instinctive feelings and innate ideas of children the case is rarely so simple. Whether young children have an instinctive dread of the dark, might of course be determined by a careful collection of testimony. But whether they experience along with their first impressions of light and sound any dim sug-

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presuppose just those susceptibilities of mental combination and transformation, which abstract individual psychology brings to light. Without doubt, too, all our higher conceptions and sentiments, for example our notions of the objective, involve the influence of mind on mind. Yet even this action of the social medium, just like the influence of surrounding space, scenery, etc., on the imagination, presupposes general susceptibilities of mind. In other words one may say that while concrete psychology involves sociological data, sociology has, in its turn, to take its data from abstract psychology.

gestions of spatial realities, seems a question sufficiently enigmatical. Most persons, perhaps, would be disposed to say that if such vague intuitions really arise in the infant consciousness they are of singularly little effect. One may observe, indeed, the helplessness of children, even when several months old, as they try to follow with the eye or head some interesting object, or to fix on the direction of some vocal sound. There is much the same kind of difficulty with respect to the alleged instinctiveness of certain elements in conscience and in the higher emotions generally. Mr. Spencer's assumption that in an infant's responsive smile and in its incipient fear before a frowning face we have presented the effects of ancestral experience and intelligence, is no doubt susceptible of a rough kind of logical appreciation. But when the supposed instinctive feeling does not display itself conspicuously as an isolated phenomenon in these early stages of the individual development, but blends with, and gives additional intensity to, later feelings confessedly derived from individual experiences, there appear to be no available means of discovering whether any part, and if so what proportion, of the phenomenon is really an inherited result of ancestral sensibilities.*

The only path that seems open to the evolutionist for reaching a solution of these questions is that of deductive argument. If, he may say, we know that the experiences of mankind and the lower races from which it has been evolved have uniformly presented a connection between certain impressions and feelings, there seems a strong presumption that some permanent deposit, left by these countless experiences, will be transmitted to the infant of to-day in the form of an instinctive mental association. This *à priori* mode of reasoning appears, indeed, to be that employed by Mr. Spencer in accounting for our intuitions of time and space. The only fault to be found with it is that it seems to prove too much. Thus, for example, would it not lead one to anticipate the existence in the infant mind of an intuitive knowledge of space-relations at least as complete as, if not far more exact than, that which is said to be discoverable in the first movements of chicken? It seems a curious fact that Professor Helmholtz, as I have shown in another essay, makes no use of the Darwinian hypothesis—so popular with German physiologists in general—in accounting for the marvellous capacities of the

* This is indeed very much the practical difficulty pointed out by Locke, in the way of any precise separation of the innate portion of an idea.

human eye. Similarly it might be argued that, if there are ancestral experiences sufficient to account for the infant's instinctive dread of a frown, there are others of equal number and intensity from which one would reason to the existence in the infant mind of other instinctive phenomena, which yet are conspicuous by their absence. Thus, it might be asked why an infant is wholly unaffected by the sudden movement of one's hand towards its eye, or why it appears to be quite ignorant of the meaning of such vocal sounds as that of scolding, although certain distinctions would appear to have had a permanent significance during innumerable generations. Such difficulties are not of course conclusive against the hypothesis of inherited associations; but they appear to show that if these instinctive combinations exist, they are subject to laws not yet adequately defined, and that therefore it is not perfectly safe to reason *à priori* to the existence in the infant mind of an instinctive predisposition which is not directly manifested in visible actions or impressions.

One may remark, further, that while the second term of this alleged hereditary sequence is often so little susceptible of exact observation, the antecedent itself is very frequently inaccessible. This is especially true of those mental qualities of the lower animals which have been more than once referred to as representatives of the remote causal antecedents of our own passions and habits.

The popular notion respecting the amount of our knowledge of the brute mind, seems to be far from exact. It is very pleasing, no doubt, to imagine that a dog's quiescent features are full of a dumb eloquence; and a great animal-painter owed at least one half of his power to his skill in seizing and exaggerating every suggestion of human character in our faithful companions and obedient servants. Yet on close examination it may be seen that the means at our disposal in reading the hidden page of brute consciousness are very few and limited. The popular fiction that we can peer directly into the soul of our favourite hound, is nothing but a relic of that once universal tendency of the human mind to project its own feelings into every object, animate or inanimate.

Of the three great avenues by which men are able to approach the minds of their fellows, namely the expressive look, the resulting action, and the descriptive word, the last appears to be, in spite of human reticence and mendacity, the most important. And it is the absence of this which obviously limits our knowledge of the lower animals. Their emotional utterances are rich and various, and, when we once get the right clue to their interpretation, reveal a vast life of

pleasure and pain, want and satisfaction. So again, a close observer, by studying the actions of animals and their modifications under the influence of new circumstances and added experiences, may learn something valuable respecting the inner processes of their thoughts and feelings. But the total absence of language makes our best inferences but feeble conjectures. We may often misread the particular shade of feeling, or fail to recognise its special cause, and yet be totally unable to rectify the error.

The risks of misinterpreting the brute mind arise not only from the poverty of its external signs, but also from its wide dissimilarity to our own. There is no doubt a bias among many observers to an exaggeration of the contrasts between the mind of the "rational animal," and that of its less favoured rivals. Yet it is probable that the anthropomorphic bias just referred to is a far greater source of error. It is clear that we cannot ascertain the precise bearing of articulate speech on thought and feeling until we are capable of directly observing a type of consciousness in which this instrument is wanting; and this is a sufficiently remote possibility. Yet one may roughly infer that the absence of language implies the lack of many of the familiar properties of our own conscious life. Employing the method of concomitant variations, we may see how certain changes in idea and sentiment uniformly accompany the successive developments of human language. And if it be proved that linguistic progress is but an effect of intellectual development, it will still remain true that the state of a language at any particular time is one great limiting condition of individual culture.

Applying these premises to the particular instance of brute intelligence, one may roughly draw certain *à priori* conclusions respecting its nature. Thus it is obvious enough that unless the lower animals have some substitute for verbal symbols, as yet undiscovered by us, they are incapable of general ideas and of any mental processes involving these. Not only so, but it seems fairly certain that these simpler types of mind are wanting in persistence of ideas, this property being largely due to the habit of introspective attention, which, again, appears to depend in part at least on the verbal accompaniment of the idea. Still more clearly does it seem that they are deficient in the power of co-ordinating ideas in complex groups or series, as the representatives either of single objects, of parts of an object, or of the sequent events of past life. And the absence of these characteristics, not to speak of others, would certainly limit the growth of the so-called faculties of perception, memory, and imagination.

This line of argument might well appear too self-evident to require distinct unfolding, were it not for the fact that a great authority in biological matters has quite recently undertaken to interpret the lower world of consciousness without betraying a sufficiently clear apprehension of the limitations to the inquiry. Mr. Darwin, in his *Descent of Man*, has thrown a valuable light on many of the aspects of animal intelligence. And with respect to a considerable number of his conclusions and conjectures, there appears to be no antecedent difficulty. Thus one sees no reason why, for example, birds should not possess that exquisite fineness of sensibility which appears to be displayed in the curious Minnesinger-contests of the male suitors (vol. i., p. 351); or why a baboon should not be endowed with that capacity for applying the results of past experiences to new and slightly different cases which is implied in his examining the kitten's paw which had scratched him and forthwith biting it off (vol. i., p. 41). But when Mr. Darwin says (p. 45) that ants "can certainly by some means judge of the intervals of time between recurrent events," because they are able to recognise their companions after a separation of four months, he seems to be reasoning in too anthropomorphic a manner. For is it not immensely more probable that these acts of recognition are due to some undiscovered fineness of sensibility, than that they should be the results of conscious inference involving such ideas as duration and interval? It strikes one as a similar transgression of the limits of strict scientific inference to call an aged dog's reflection on the past a form of self-consciousness (p. 62). For is it not probable that the most rudimentary idea of self follows by a long interval the degree of intelligence involved in linguistic capacity? Nor is the fine emotional susceptibility to tones and colours, which is said to be manifested by birds, rendered any clearer by being named a sense of beauty, since there seems a vast psychological interval between an emotional response to the action of some grateful stimulus, and the highly complex intellectual and emotional development implied in a distinct appreciation of objective beauty.

One example of the risks which attend all attempts to read the animal mind deserves a special examination. I refer to the mode in which, as we have seen, Mr. Darwin would derive man's ethical feelings from the instincts of lower races. How far the more intelligent animals feel anything like remorse, is, one would say, a point of considerable difficulty. Yet Mr. Darwin finds this state of mind necessarily involved in a certain strength of social instinct.

An animal, he says, will certainly feel remorse when the degree of its sociability and of its intelligence qualifies it to experience the recurrence of images of past actions, and a feeling of dissatisfaction at the recollection of an unsatisfied instinct. Yet this strikes one as a curious analysis of what we understand by conscientious sensibility. How a mere recollection of an ungratified instinct is transformed into the voice of "an inward monitor" which teaches "that it would have been better to have followed the one impulse rather than the other," Mr. Darwin does not explain. If the superior persistence of an instinct gives a consciousness of obligation, it of course follows, as Mr. Darwin seems inclined to allow, that a pointer feels it ought to point, and migratory birds, that they ought to abandon their young at the appointed time. Now it might, perhaps, be a sufficient criticism of this theory to point to the immense difficulties of trying to enter into the feelings which a dog experiences under the drawings of two opposite impulses. But one may find facts which appear directly to contradict this view of the moral sentiment. First of all, our own subjective reflection tells us that we constantly experience the regret which attends a recollection of unsatisfied desire without feeling anything akin to a sense of wrong. This is true of our daily vexations at the remembrance of neglected opportunities of advantage, and even of the omission to seize a passing pleasure. Secondly, it appears highly probable, after a wide psychological induction, based on the observation of many races of mankind, that the first rudimentary sense of duty presents itself in that peculiar variety of fear which accompanies a recognition of superior will and power in another. Hence it is conceivable that an intelligent dog, which is able to apprehend the sanctions which lurk behind its master's words, may feel something analogous to our sentiment of duty. But it seems a little too conjectural to suppose that animals experience the feeling as soon as the impulses of union and mutual service reach a certain degree of persistence.

Unless the foregoing considerations can be shown to be invalid, it follows that we cannot yet dispense with the fullest and most patient study of the subjective side of the human mind. The doctrine of the descent of species has a singular fascination just now. It appears to expand thought to regions compared with which the older objects of inquiry look puny and cramped. Nor can it be doubted that it opens up splendid possibilities of a deeper understanding of vital processes, among which conscious thought is certainly one. But it may be well for us, under the first dazzling

light which breaks from the new idea, to shade for a moment the intellectual eye; and, looking again at the nearer circles of the surrounding scene, to note whether in gazing into the large elating perspective just revealed, we were not losing something of distinctness of detail and definiteness of arrangement. And this is the kind of re-adjustment of the visual organ which we have just been attempting.

In conclusion, it may be desirable to refer to the bearing of the evolution hypothesis on the great question of the relativity of human ideas and beliefs. It was suggested at the commencement of this essay that, looked at as an expression of the order of objective events, the theory of organic development has nothing to say about this interesting philosophical problem. Thus with respect to the question of the independent existence of the material universe and its active forces, it leaves the argument in precisely the same logical position as before. For if evolution be a fact, the idealist will be able to speak of forces acting many ages before the dawn of consciousness as "possibilities of sensation," in precisely the same manner in which he now applies these terms to such present existing realities as the inaccessible centre of our planet. Mr. Spencer, I am aware, distinctly affirms that the reality of an independent unknowable Force is necessarily involved in his theory of evolutional progress. But this can only mean that every distinct conception of subject and object involves this postulate; and this assumption can hardly fail to strike one as a *petitio principii*, inasmuch as able thinkers have undertaken to find the deepest significance of this antithesis in purely phenomenal distinctions.

While this hypothesis does not necessitate the adoption of any new theory of the ultimate significance of material existence, it just as little affects the metaphysical question of a spiritual substance. There is no doubt, as Mr. Bain has recently shown in his *Mind and Body*, that science is gradually dispensing with the notion of such a spiritual substratum, and Mr. Spencer, in his *Principles of Psychology*, has argued very elaborately against the assumption. But though science ignores the old metaphysical theory, it cannot directly controvert it; and this is true of the scientific doctrine of evolution. According to this theory, mind began to exhibit itself as a phenomenon at a certain stage in the upward progress of organic life. Yet it does not tell us anything more about the ultimate essence of mind—if indeed there be anything more to be known—

but simply describes its phenomenal manifestations and their order. Now it is possible for a modern disciple of Leibnitz to argue that this is the mode in which the Deity, or some other principle, has co-ordinated the two substantive forces; and that just as it was possible to conceive the co-existence of the material and spiritual energy in the graduated scheme of sentient life which we find simultaneously revealed in the animal kingdom, so it is possible on the evolution hypothesis to conceive their co-existence in the successive manifestations of animal development.

Yet while the principle of evolution, looked on as a new expression of our objective knowledge, does not conflict with either Realism, Spiritualism, or Dualism, on the other hand, by affirming a certain order in the processes of *subjective* knowledge, it does certainly affect the question of the validity of all inferences respecting absolute existence. And it does so by offering a new interpretation of *à priori* forms of thought. According to the older metaphysics, all innate ideas transcend in dignity and certainty the empirical knowledge which comes during the progress of individual life; and this supposition was skilfully turned to the advantage of religion and of morality by the inclusion of our ideas of duty and the Deity in the *à priori* category. Now the evolutionist teaches us that these instinctive intellectual forms represent vast numbers of ancestral experiences, namely, such as have been uniform in their order through long ages of racial development. In this manner he is able to preserve for these innate intuitions the superior dignity previously accorded them, while he nevertheless assigns to them an origin in experience. But how, it may be asked, does this theory propose to deal with our supposed intuitions of an objective reality or absolute existence, which, *ex vi termini*, never was, and never can be a subject of experience?

Mr. Spencer has discussed the question of the Absolute with very great fulness and argumentative skill in connection with his system of evolution. Into all his subtle reasonings we cannot now follow him. His conception of the absolute appears to be that of an unknowable Force which somehow underlies the phenomena of mind and of matter, though he customarily describes it in terms borrowed from material processes. He finds this ultimate reality postulated in the very recognition of the relativity of our impressions to the structure of our organism and to the condition of our organs. But, curiously enough, he does not seek to explain how intelligence, which up to a certain point of development was wholly regulated

by expanding experiences, suddenly leapt, as it were, beyond all experience to the dim vision of the hidden absolute. He does indeed analyse with a high degree of characteristic skill the process by which the human mind gradually distinguishes object and subject, but omits to explain how the recognition of this phenomenal distinction ever passed into the assurance of a mysterious eternal reality.

It strikes one that Mr. Spencer's theory of intelligence proves defective here, through the non-recognition of the mind's spontaneity. Intelligence, as we actually know it, is never precisely a correspondence between external fact and internal thought. The inveterate habit of anticipating nature, with all the crude superstitions to which it has given origin, shows how vigorously purely subjective impulses strive to cast off the yoke of experience. And one may reasonably argue that it is by a similar endeavour to dispense with experience that the human mind attained, and still clings to, the supposition of unknowable Things or Forces.

Assuming that this belief is now a transmitted tendency of thought, the question arises what is its exact authority. An inherited form of thought may no doubt bring weight with it, if we can be certain that it is a faithfully delivered chronicle of oft-repeated processes of ancestral experience. But an instinctive disposition to believe in the non-relative cannot possess this peculiar claim to our veneration, since it does not profess to perpetuate the result of ancestral experiences. And if one can discover a psychological cause for an individual's assuming, without any logical warrant, the existence of an unknowable objective reality, one may reason that a similar play of subjective intellectual activity, extending through many generations, would be sufficient to produce the alleged instinctive belief in this unapproachable existence. In other words an innate quasi-intuition may be just as well the product of the vagarious action of spontaneous thought, as the accumulated lesson of actual experience unconsciously whispered on to each new descendant by its line of progenitors.

It would thus appear that the acceptance of a theory of transmitted ideas, so far from its showing the validity of inference respecting the existence of an absolute, really enlarges the scope of that kind of psychological analysis which is subversive of the assumption. Assuming that there are emotional and intellectual tendencies in the human mind which serve to generate and foster beliefs not warranted by experience, one may argue that many ideas and apparent

intuitions will be liable to be transmitted with greater and greater force, which owe their genesis not to facts of experience but to the activities of spontaneous imagination. And if this be so, how can one be logically certain of the absolute existence of Time or Space, Matter or Spirit, the Beautiful or the Good?

# NEW THEORIES OF EMOTIONAL EXPRESSION.

It is not, perhaps, to be greatly wondered at that, among the many curious problems presented by the highest forms of animal life, the explanation of the movements and sounds which express emotional fluctuations, should so long have lain in apparent neglect. Even to unadvanced students of biology it is probably evident that throughout all the phenomena of intelligence and voluntary action there is a certain degree of continuity, so that when once the germs of these organic developments have been discovered, all higher manifestations may easily be traced back to these. So, too, with respect to the mysterious phenomena of instinct, it can in most cases be seen that unacquired habit, just like consciously directed action, is of service to the maintenance of the individual or the species; and in this way a valuable clue is afforded to the precise region of explanation. But in the phenomena of emotional expression there appears at first sight nothing but arbitrary and inexplicable pre-arrangement. The progress of microscopic, and of the experimental branch of physiological science, enables us to assign with greater and greater exactness its right set of muscular fibres to each distinguishable shade of feeling; but this does not help us onwards by one step in searching for the reason of the particular connection. Why, for example, certain forms of grief should uniformly prefer to display themselves in oblique eyebrows and dejected angles of the mouth, when, for aught we can see, any other disposition of the facial muscles would have answered the purpose of definite expression equally well, still remains apparently an insoluble question, which ought, perhaps, to be reverently laid aside among the arcana of the unknowable.

This very natural attitude with respect to the subject was in fact taken up by physiologists to whom the conception of evolution had not yet shone forth, lifting the veil of darkness from a vast and seemingly boundless world. Sir Charles Bell professed the belief that many of our facial muscles are "purely instrumental in expression," and "a special provision" for this sole object. Müller

the great founder of modern German physiology, with rather more of the scientific spirit, declared that we are "quite ignorant" of the cause of the connection between the several feelings and the muscles employed to express them.*

It is a curious incident that after the subject had so long assumed this stationary condition, it has recently been acted upon, almost simultaneously,† by two propulsive forces, which appear to have overcome the body's inertia, and to have imparted to it a rapid motion in the direction of complete explanation. I refer to the attempts of the two great advocates of the evolution doctrine, Mr. Spencer and Mr. Darwin, to trace back the origin of expressional movement to causes that are supposed to have been acting through dimly conceivable ages and innumerable modifications of race. I propose to give here a brief account of these new doctrines, pointing out their degree of coincidence, and suggesting the probable value of their principal theses.

Mr. Darwin's last work, *The Expression of the Emotions in Man and Animals*, is characterized by all the author's subtlety of speculation and patience of elaboration. Nothing but a thoughtful perusal of the whole book can give one an adequate impression of the force of Mr. Darwin's reasoning. This I may suppose the reader to have accomplished, and need only recapitulate the results reached by the writer.

The greater part, if not the whole, of expressional phenomena may be explained, says Mr. Darwin, by means of three laws. Of these the first is the principle of serviceable associated habits, and is thus stated:

"Certain complex actions are of direct or indirect service under certain states of the mind, in order to relieve or gratify certain sensations, desires, etc.; and whenever the same state of mind is induced, however feebly, there is a tendency through the force of habit and association for the same movements to be performed, though they may not then be of the least use."

This law appears to cover by far the largest number of distinct expressions. Mr. Darwin applies it with great skill to the curious phenomena of weeping, puckering the eyebrows and skin of the forehead, and depressing the corners of the mouth, as well as to other and less intricate movements, as the gestures of anger. All

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* Quoted by Mr. Darwin in *The Expression of the Emotions*, Introduction, pp. 10 and 12.

† It is only fair to add that the publication of Mr. Spencer's views preceded by a brief interval that of Mr. Darwin's.

of these he regards as survivals in nascent shape of actions once voluntarily performed by our progenitors, during certain states of feeling, and for some useful purpose. The action of this law, as of all others, may be seen best of all in a simple case. Thus it is well known that savages express all varieties of pleasure by gestures derived from the gratification of eating, such as rubbing the belly, smacking the lips, and so on. When an Australian smacks his mouth at the sight of a European's horses and dogs, we have presented to us the retention of an action, once serviceably linked to the desire to eat which the sight of food calls up, and now uselessly joined to the pleasure of admiration, the cause of the transition being the associative force contained in the similarity of these two feelings. It is seen here that when Mr. Darwin, in his statement of the principle, speaks of "the *same* state of mind," he not only does not mean identical, but he does not mean precisely similar. This is perhaps still more apparent in another case. When a man scratches his head from perplexity, Mr. Darwin thinks he is simply transferring to a new form of discomfort the action which has been found to relieve another and more common form. Here it must strike the reader that the link of resemblance is by no means of the strongest, the feeling of cutaneous irritation being, one supposes, by many removes distinguished from intellectual distress.

The remaining two principles are made much less of by Mr. Darwin. They are as follows:

II. "The principle of antithesis: Certain states of the mind lead to certain habitual actions, which are of service, as under our first principle. Now when a directly opposite state of mind is induced, there is a strong and involuntary tendency to the performance of movements of a directly opposite nature, though these are of no use; and such movements are in some cases highly expressive." III. "The principle of actions due to the constitution of the nervous system independently from the first of the will, and independently to a certain extent of habit. When the sensorium is strongly excited, nerve-force is generated in excess, and is transmitted in certain definite directions, depending on the connection of the nerve-cells, and partly on habit: or the supply of nerve-force may, as it appears, be interrupted."

As an example of the second law, I may refer to the flexuous movements expressive of glad affection in a dog, which the author thinks are fully explained as the antithesis of the rigid attitude usually accompanying the state of angry hostility. To the third principle he seems to refer all external manifestations of feeling not explicable by his first two laws, as for example the trembling of the muscles during certain emotional states through an interruption of

nerve-force in the motor fibres, the changes in the secretions effected by emotion, and so on.

Mr. Spencer has given us his view of expression and its origin in the second edition of his *Principles of Psychology*. Under the title, *Language of the Emotions*, he has enlarged and rendered more precise a theory of the subject with which the reader had been made partially familiar in some of his essays, for example, those on the *Physiology of Laughter*, and the *Origin and Function of Music*. He regards all the phenomena of expression as resulting from two main causes, which he calls diffused and restricted nervous discharges. He holds that by a general law of nervo-motor action every feeling has for its primary concomitant a diffused nervous discharge, which tends with varying degrees of force to excite the muscles to action. The precise manner in which this law acts is exhibited in the two following statements. First of all, the degree of energy in the resulting bodily movements varies directly as the degree of intensity in the feeling. Secondly, any feeling affects the muscles in the inverse order of their sizes and of the weights of the parts to which they are attached. That is to say, the smaller the calibre of the muscle and the lighter the part of the body to be moved, the smaller the quantity of feeling necessary. Illustrations of the first aspect of this principle are, perhaps, scarcely needed. We uniformly judge of the intensity of any feeling in another person by the degree of bodily agitation accompanying it. Its second aspect is illustrated by Mr. Spencer in several interesting examples. In the dog, for instance, the tail is the part most easily moved, and its movements consequently answer to the first and feeblest excitations of feeling. In the order of movement that marks the development of a fit of rage or of an outburst of merriment, we see that during the incipient phases of the feeling only the smaller muscles, namely, those attached to the corners of the mouth, the eyebrows etc., are acted on; whereas in the later stages the larger systems of muscles, that move the head and limbs, and subserve the actions of the respiratory and vocal organs, come into vigorous play.

By restricted nervous discharges Mr. Spencer refers to the particular movements that distinguish any variety of feeling, the connection between which he considers to be due to "relations established in the course of evolution between particular feelings and particular sets of muscles habitually brought into play for the satisfaction of them." As an example of this process we may take the habit of frowning. This facial movement was, according to Mr.

Spencer, acquired during the combats of races immediately preceding our own, the lowering and protruding of the eyebrow being of service to the combatant for shutting out the direct rays of the sun. These combats, moreover, uniformly developed in a high degree "the non-pleasurable feelings." In this way a powerful association would be formed between the act of frowning and painful sensation, so that it would easily come to express any other form of misery besides that of violent antagonism. Among the special lines of discharge which the nervous force makes use of during a fit of emotional excitement, Mr. Spencer calls particular attention to the vagus nerve of the heart, through which a retarding effect on the circulation is frequently produced. This effect is seen, he thinks, both in the utter prostration that accompanies great grief, and in the tremblings of the limbs and voice which characterize less violent emotions, this unsteadiness being caused by the irregularity of the nervous current.

Now in comparing the two theories thus roughly stated, the first thing that strikes the reader is the substantial agreement between Mr. Darwin's principle of serviceable associated habits and Mr. Spencer's law of restricted nervous discharges. According to each of these, the greater number of the characteristic movements of our several feelings are relics of once useful actions, which have survived their first utility and become associated with new types of feeling having a certain affinity with those which it was their original function to gratify. In other words, both writers refer the curious and *per se* meaningless signs of emotion to the same great category to which they would refer the rest of our actions, voluntary and instinctive, namely, to movements which in their first stages at least, subserve some function of life and tend to bring the organism into closer correspondence with the conditions of its environment. And since indeed the ability to express distinctly a definite variety of feeling is of constant service to members of a society receiving so large a share of assistance from each other, it may perhaps be said that emotional movements in all periods of their history are not ultimately separable from the rest of our actions.

In number and variety of illustrations Mr. Darwin's work is of course far superior to Mr. Spencer's limited chapter. Nothing indeed is more striking in Mr. Darwin's treatise than the boldness with which the antecedents of our expressive movements are searched for, in far-off ages, among wholly unlike conditions of animal existence. It is to be expected, perhaps, that some of these ex-

planations will at first appear a little fanciful and unsusceptible of verification. Take, for example, the elaborate reference of weeping to the following chain of events: prolonged screaming during infancy, this leading to the gorging of the blood-vessels of the eye; the contraction of the muscles round the eye as a protection against this pressure of blood; lastly, a reflex action on the lachrymal glands, resulting from the external pressure of the contracting muscles on the eye and the distension of its vessels. In this manner, Mr. Darwin supposes, there would be built up, during innumerable generations of our own race, and, perhaps, of its proximate antecedents, a connection between the movements of the lachrymal glands and all modes of painful feeling, which would show itself too in cases where the act of screaming which first called the phenomenon of weeping into existence is suppressed by the will. Our author finds another explanation, of equal ingenuity, for the phenomenon of oblique eyebrows which is characteristic of mental dejection. In certain cases, indeed, the reader cannot help suspecting that several supposable causes might explain the particular movement equally well. For instance, Mr. Darwin calls attention to the habit of raising one's hand to the mouth or chin during perplexed thought, which reappears among some savages as a habit of bringing the hand in contact with the upper lip. Now might not this trick be equally well accounted for by supposing, either that during absorption in thought the muscles supporting the head are apt to be relaxed, or that simple savages learnt to indicate reflection by silence and so by closed lips, or finally, that in commencing an act of concentrated thought there would be a tendency to sharp decided action of unconnected voluntary muscles, just as there is a disposition to firm energetic movements of head, limb and voice in states of sudden resolve? The precariousness of these explanations is seen still more forcibly in the fact that on one occasion at least, Mr. Darwin and Mr. Spencer refer the same phenomenon to two distinct causes. Mr. Spencer's explanation of frowning, as a habit formed during ancestral combats, has already been quoted. Mr. Darwin traces it back, like weeping, to concomitants of infantile screaming. The combats Mr. Spencer refers to were no doubt enlivened by shrill vigorous screams of the war-whoop kind; but then they were not waged, one imagines, by precocious infants. It must be allowed, indeed, that in all these explanations there is a considerable element of uncertainty. A general presumption that our expressive movements were once voluntary, may no doubt be found

in the fact that they are still largely under the control of the will. But it would seem to be in many cases no easy matter to determine what particular actions were the antecedents of a given emotional sign. At the same time, it is clearly better to have a doubtful explanation than none at all, and on this principle Mr. Darwin seems to have proceeded.

Mr. Darwin's second principle finds no place in Mr. Spencer's theory of expression, and indeed one strongly suspects that most readers will find this part of Mr. Darwin's exposition far from convincing. The basis of the principle of antithesis is thus given. Since opposite impulses of the will have uniformly and habitually led to movements of an opposite kind, as in turning to the right and to the left, "so when actions of one kind have become firmly associated with any sensation or emotion it appears natural that actions of a directly opposite kind, though of no use, should be unconsciously performed through habit and association under the influence of a directly opposite sensation or emotion." I confess that the precise meaning of this is by no means clear to me. First of all, it may be asked, what is meant by opposition between the impulses of the will to turn to the right and to the left, over and above the contrariety of direction in the resulting movements? And even supposing there were some such mysterious contrast in our volitions, with which contrariety of movement had become instinctively associated, one might still inquire how we should be able to determine the proper antithesis in the case of any given emotion. Why, for example, should the movements of a dog during an outburst of affection be regarded as the antithesis of movements which accompany anger, rather than of those which characterize terror? As states of feeling, one suspects, terror before a threatening look and the pleasurable elation at friendly symptoms have quite as many elements of contrast as the feelings said to be in antithesis by Mr. Darwin; and so far from the movements of these opposite feelings being strongly unlike, they very closely resemble one another in many respects, as may be seen in the fawning and crouching attitudes. Still more arbitrary, perhaps, is another application of this principle of antithesis. The motions of the arms and hands denoting surprise are explained by Mr. Darwin as the opposites of the quiescent state of the body which accompanies mental indifference. Now one may well ask why wonder should be considered the antithesis of emotional rest, rather than any other form of excitement, as anger, or fear. And even were a satisfactory

reason shown for this, it would still be necessary to explain why such and such movements of such and such limbs, rather than any others from among a host of conceivable ones, should be selected as the opposites of muscular repose.

Mr. Darwin, it should be said, clearly recognises how very limited is the number of cases to which his principle applies. He sees that in some cases totally unlike feelings have movements precisely similar to one another or scarcely distinguishable from one another, as, for example, the cries which express joy and grief, these sounds being, as Mr. Spencer rightly says, often confounded by an anxious mother. In addition to this, he plainly admits that the principle must not be supposed to have acted in the case of those emotions, such as terror, great joy, etc., which naturally lead, according to the first principle, to certain definite lines of action (p. 288).

So far as I can see, there appears to be this amount of truth in Mr. Darwin's second principle, though it hardly entitles it to the rank of a distinct law of expression. Any accidental adoption, from whatever cause, of strongly contrasted movements would be promoted by the action of natural selection, it being clearly of service to gregarious animals that the expression of their emotions should be as distinct and unambiguous as possible; also one must suppose this end to have been furthered by conscious endeavour. Secondly, since all our groups of muscles require alternations of work and repose, there would be a tendency in the second of any two feelings which frequently rise in immediate sequence, to act on muscles not engaged in expressing the first emotion; and since many of our antagonistic muscles, the tensors and flexors for example, have come to alternate mechanically in many of the rhythmic movements of the body, the second of the two emotions would be able most easily to excite the antagonists of the muscles first employed. This last supposition refers, it will be noticed, not to any inherent opposition in two emotions, which it is very difficult to make out, but simply to their contiguity in time. Whether any such process can be detected in the case of feelings which, like fear and joyous relief, have frequently succeeded one another in the animal's experience, may be left an open question.

With respect to the direct effects of the nervous system on emotional expression, it is clear that Mr. Spencer's definition of the laws of nervous discharge is greatly superior to Mr. Darwin's theory. The latter writer seems, indeed, very vague in his account of this principle. Thus he refers the habit of starting at a sudden

sound to the useful action "of jumping away as quickly as possible from danger whenever any of our senses gave us warning." But it seems tolerably certain that, before this action was acquired, there was, by the law of nervous stimulation, a tendency in any sudden and powerful sensation, as a loud sound or a flash of light, to produce a spasmodic kind of movement. Yet at other times Mr. Darwin displays a very accurate knowledge of the direct results of the nervous system, as when, for example, he finds the origin of blushing in the physiological effect of attention to any part of the body's surface. Blushing, according to this theory, arose from the habit of thinking intensely about one's personal appearance, more especially about the aspect of one's face during the reception of a rebuke from another. Such attention would probably involve some unusual activity in the sensory nerves of the part of the bodily surface attended to, and in the nerve-cells connected with these, and this alteration of nervous force would tend to interfere with the ordinary tonic contractions of the small arteries distributed through the part.

Mr. Spencer's precisely formulated law of diffusive nervous discharges offers an easy explanation of the order of movements presented in the rise of a passion. At the same time, Mr. Darwin finds another reason for this phenomenon. According to him, the facial muscles are called into action by much fainter degrees of feeling than are required to excite the vocal and respiratory organs, not because of the smallness of their calibre, but because they are much less under the control of the will. In order fully to establish Mr. Spencer's view of the matter, it would be necessary to show that the same order is preserved when all volitional checks are absent and all the motor effects of the feeling actually follow; and this appears to be highly probable.

It is noticeable that in treating of the law of nervous diffusion neither Mr. Darwin nor Mr. Spencer lays any emphasis on the supposed dissimilarity in the physical embodiments of pleasurable and painful emotions. It has been maintained by Professor Bain* that there is a radical contrast in the expression of these feelings, which is due to the principle that pleasure promotes, while pain obstructs, the vital processes, including muscular action. It is

* Since this essay was written, Professor Bain has restated, in a note to his *Senses and Intellect*, his views on the expression of the emotions, and has compared them with the theories we are now examining.

by no means easy to extract a definite conception of this distinction from the argument of Mr. Darwin. In one place he says "Under a transport of joy or of vivid pleasure there is a strong tendency to various purposeless movements, and to the utterance of various sounds. . . . Joy quickens the circulation, and this stimulates the brain, which again reacts on the whole body" (pp. 75, 76). Again he tells us that the symptoms of terror, namely beating of the heart, trembling of the muscles, and cold perspiration, "are in large part directly due to the disturbed or interrupted transmission of nerve-force from the cerebro-spinal system to various parts of the body" (p. 308). But the contrast thus hinted at is not raised into a cardinal fact of nervous diffusion. Indeed Mr. Darwin distinctly bases the main part of the distinction between turbulent and quiet emotions on the fact, that the former have customarily led to vigorous serviceable actions, while the latter have never needed these agencies of gratification and relief. As an example of a comparatively unexciting though powerful emotion he cites maternal love. Since he appears to hold as well, that all feeling tends to produce movement in proportion to its intensity, it seems probable that he conceives this effect of past associations to cross, so to speak, and modify the action of the general law.

Mr. Spencer, too, fails to assign any radical peculiarities to the symptoms of pleasurable and of painful emotion. He distinctly recognises (p. 636) that pleasure is connected with a perfect, pain with an excessive nervous action; but this distinction appears to refer to the stimulation of a feeling only, and not to its expression. In another place, moreover, he seeks to show that however pleasures and pains first arose in the evolution of animal organism, the action of natural selection would clearly tend to make pains coincide with detrimental actions, pleasures with beneficial ones. But this difference of bane and benefit does not, so far as I understand Mr. Spencer, enter into and modify the physical accompaniments of a feeling. The muscular depression which is so conspicuous an accompaniment of some painful feelings, pre-eminently of terror and of anxiety, Mr. Spencer seeks to explain by means of some retarding action on the circulation effected through the vagus nerve. This result is produced, he thinks, by any very intense feeling whether painful or pleasurable, and it assumes the form either of fainting or, in less extreme cases, of trembling (pp. 552–3). It may strike, one as doubtful, how far this retarding influence on the circulation is a consequent of strong pleasurable feeling, except in a few

extreme cases where the intensity of the sudden shock, which is always mischievous, more than counterbalances the beneficial effect of the pleasure. Further, one might inquire whether trembling does not frequently coexist with a heightened rather than with a lowered circulation, as in the manifestations of some of the stiller forms of delight.

To try to decide what is the precise difference, if indeed any is to be found, between the physical expression of pleasure and of pain, does not lie within the scope of this essay. A mere suggestion of the probabilities is all that can be given. First of all, then, it seems pretty evident that within certain limits we may look on all feeling, irrespective of its quality, as promotive of muscular activity. This is clearly enough recognised both by Mr. Darwin and by Mr. Spencer. All varieties of emotion, provided they are neither too intense nor too prolonged, arouse movements of some kind, their number and energy varying, as Mr. Spencer says, with the intensity of the feeling. But though this may be looked on as the first law of emotional expression, it should be remembered that its action is very often obscured by other laws. Thus it is probable, as Mr. Darwin teaches, that many types of feeling, such as anger, have an exceptional amount of muscular expression in consequence of the fact that they have customarily led to energetic voluntary actions suited to gratify them. Finally, it appears highly probable that the fundamental law is still further disguised by a uniform difference in the organic effects of pleasurable and painful feelings.

All forms of delight seem, as Mr. Bain says, to promote the vital functions, stimulating to a healthier pitch the processes of circulation, respiration, and secretion, together with muscular action. Mr. Spencer must surely be overlooking familiar facts when he speaks of the intenser forms of delight and misery as similar in the law of their expression. Add very considerably to the gravity of a painful sensation, or greatly prolong it, and you will scarcely find the motor excitement rising in a direct ratio.* On the other hand, pleasure

* Mr. Spencer has been kind enough to send me a fuller explanation of his views respecting this subject. He says: "The theory that all pains (excluding those of craving) are due to *excess* of action, clearly explains this" (subsidence of motor activity with increase of pain), "since excess brings undue waste and exhaustion." This conclusion, as I have hinted in the text, is without doubt implicitly contained in Mr. Spencer's theory of the nature of painful and pleasurable stimulation. But I think that a reader of his interesting paragraphs on the nature of nervous discharges—in which the same laws of quantity are

may be intensified and prolonged within vastly wider limits, with a proportionate increase of external excitement. No doubt painful feelings, even when intense, may prompt brief spasmodic movements, as we see in the sudden and fitful actions prompted by anger and bitter vexation. But here one may probably recognise, in addition to the influence of past associations just spoken of, the effects of simple emotional stimulation. All pungent sensations of pain, if not unduly prolonged, are, as lively pulsations of feeling, highly stimulative; and this fact explains the characteristic virtue of the whip. In these cases the pungency of the sensation seems to effect more in raising activity than the volume of its attendant pain in depressing it. Now in all angry moods there are constantly presenting themselves to the mind new impressions and ideas of a poignant and irritating character, each of which has an appreciable effect in stimulating momentary action. Hence, perhaps, the series of brief abortive movements which attend these fits of emotion. But when once the current of painful consciousness has swollen to a certain height the stimulative effect of these cumulative shocks disappears, and the waste of energy that ever attends painful conflict distinctly betrays itself. Again, the quiet pleasures referred to by Mr. Darwin, as for example the satisfaction of maternal love, may be regarded as producing their healthy effect on the nervous energy in other directions than that of motor stimulation. Mr. Darwin is, perhaps, scarcely exact in regarding maternal affection as customarily a quiet emotion. It would rather seem that the outbursts of maternal love include some of the most vigorous of emotional movements. It is probable that the more energetic outgoings of maternal delight have gradually been brought under voluntary restraint, as the discovery was made that sudden movements and sounds, not to speak of eager embraces, are likely to injure the tender sensibilities of the infant organism. Lastly, it may be said that this law of pleasurable and painful expression is always limited by the supply of nervous and muscular energy stored up at the time. A stimulus of given intensity, say a sudden sound or a sharp blow, will produce unequal amounts of movement in two animals, one of which is much more lively than the other. There is probably a varying quantity of energy always latent in the nervous system,

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applied to all feelings alike, irrespectively of their qualitative differences—would not infer that the writer recognised any radical distinction between pleasures and pains, in respect to their accompanying physical expression.

which implies a readiness for movements of all kinds. As these outbursts of wanton force are usually attended with an exhilarating feeling, an enjoyment of life, as we call it, it would be possible of course to regard them as cases of the concomitance of pleasure with an increase of energy. But it seems best to look on this mode of energy, existing independently of the processes of external sensation and emotion proper, as a distinct force which co-operates in all the effects of stimulation, whether peripheral or central. When this latent central force is abundant a very slight stimulation of pleasure will produce a long series of lively movements and, conversely, all moderate pains will be apt to exhibit the stimulative effect of emotional shock rather than the depressing effect of nervous waste. These phenomena are best studied in the actions of the young, whom it is always a far easier task to cheer and stimulate than to check and master. In feebler states of the nervous energies even intense pleasures may fail to call forth energetic movements, whereas the baneful effects of pain are rendered very conspicuous.

How far this characteristic difference in the outward effects of pleasure and pain is due to some qualitative peculiarities of the nervous processes, cannot, perhaps, as yet be ascertained. It is easily conceivable that all pain, which does not arise from over stimulation and nervous exhaustion, involves a wasting conflict between adverse currents of nervous force. At the same time, the investigations of Helmholtz into the phenomena of musical discord —which will be spoken of in a future chapter—suggest the possibility, that even pains of conflict may be due to excessive stimulation of the nervous fibres. In any case, it seems pretty certain that pain involves a harmful drain of nervous energy, which betrays itself in a decrease of muscular and other activity.

There are other points of interest in these new theories of expression which ought not to be overlooked. Thus, for example, both Mr. Spencer and Mr. Darwin call attention to the action of the will in modifying expression, as it may be observed in the trembling of the lips which attends half suppressed grief, and in the fumbling movements of the hands which accompany an effort to conceal a feeling of uneasiness before others. Mr. Spencer works out rather fully the explanation of these partially transformed expressions. Yet possibly much more might be said on the same subject, and the fact illustrated that emotion is not only acquiring a "secondary language" from incomplete volitional control, but is gradually assuming

new forms of expression from the growing necessity, in polite life, of manifesting sympathy certain orders of feeling, such as the compassion of the human and the sympathetic interest of the courteous listener.

It is worth noting, too, that Mr. Darwin and Mr. Spencer account in somewhat different manner for the intelligibility of emotional signs. Mr. Darwin appears to think that the cries of pleasure and pain common to all the higher animals were at first involuntary actions performed with the object of receiving assistance or of sharing some benefit; and, according to this supposition, the meaning of such cries would be learnt, like any fact in nature, by the laws of association. Mr. Spencer offers an ingenious hypothesis in explanation of emotional comprehension. Animals, he tells us, as they became gregarious, were subjected simultaneously to the same conditions of hunger and satisfaction, of danger and relief; and as similar emotional experiences would thus occur simultaneously in various members of the flock, so also would the vocal sounds in which these feelings uniformly and instinctively discharge themselves, be uttered simultaneously. Hence a definite association would be established in the mind of each member between a particular sound uttered by its companions and the consciousness of fear or of delight which had so frequently been experienced along with it. In this manner the language of the emotions might become intelligible without any help from the link of similarity which would serve to connect in the mind of each member its own cries with those of its companions in similar states of feeling, though one may presume that Mr. Spencer would admit the co-operation of this mental influence. This appears to be a great advance on Mr. Darwin's views, which leave out of consideration the tendency of all feeling to vent itself in muscular action, quite independently of any good to be obtained. At the same time it is probable, as has been hinted before, that volition, as well as natural selection, has from the first served to render the various expressions precise and easily distinguishable; and accordingly, it must always be a matter for doubt, what part of a given emotional movement is due, not to the direct effects of nervous diffusion, but to gradual modifications consciously aimed at, as well as to actions once performed for other ends but now associated with this particular variety of feeling.

# RECENT GERMAN EXPERIMENTS WITH SENSATION.

THE phenomena of sensation constitute in a peculiar manner the borderland of physiology and psychology. For while all mental operations undoubtedly imply physiological conditions, the direct observation of them is in most cases rendered impracticable through their great subtlety and complexity. In respect to the organs of sense, however, physiological observation is specially favoured. The cause to be observed being some external stimulus, as a pencil of luminous rays or an adjusted series of weights, which is wholly in the experimenter's hand and may be varied and circumscribed at his pleasure, there are presented the most favourable conditions of physical experimentation. Further, the isolation and accessibility of these organs and their nervous connections, as compared with the deep-lying and intricate structures of the centres, very much facilitate the study of the precise changes to which they are liable. For these reasons, the physiology of the senses has attained a very high degree of precision and certainty, and is fast becoming the most elaborate department of the science of organism.

With this increased attention of physiologists to the facts of sensation psychologists have every reason to be content. It is perfectly true that much of this experimentation might just as readily have been undertaken by the latter in the interests of their particular science. Yet they will hardly regret, it may be presumed, that their omissions have been made good by the labours of others. Of course, the aim of the two classes of explorers would not be exactly the same. To the physiologist the mental element is of secondary importance, being simply a co-effect, easily ascertainable, by means of which his inferences respecting the real physiological effect may be corrected. To the psychologist, on the other

hand, the mental factor is the essential part of the phenomenon. Yet while there is this apparent difference in the aims of the two classes of inquirers, the method to be pursued is very much the same for both. The introduction to the several organs of sense of a large variety of well-ascertained stimuli, and the observation of their effects, while necessary for studying the precise physiological functions of the organs, are just the best means of learning the exact nature of sensation itself.

Purely internal observation, it should be remembered, as applied to our sensations, is necessarily very limited. By means of it we learn, it is true, to compare, discriminate, and classify them according to their qualitative peculiarities. But they have other aspects, about which this subjective method tells us scarcely anything. If we wish, for example, to ascertain the exact duration of a given sensation, we find it necessary to resort to some objective measure of time. The mere internal sense of duration, of a pain, for instance, is a very vague instrument of measurement. We all know how commonly in daily life our individual and subjective impression has to be corrected by a reference to an objective standard, as supplied, for example, by a clock or a thermometer. Now it is just this want of precision in our subjective estimate of sensation which renders its systematic study, in connection with its nicely-definable objective causes a matter of such psychological moment.

While these experiments directly contribute to the scientific study of sensation, they serve also to illustrate mental processes and laws previously arrived at by subjective observation. In order to understand how this happens, it should be remembered that the mature sensations which the physiologist deals with are the product, not only of the present external stimulation, but also of the individual's past experiences. It is impossible to produce, and at the same time to obtain an account of, what may be called a virgin sensation, such as may be conceived to be the impression of an infant mind, if indeed even this may be supposed to exist pure from all accretions of transmitted association. Subtly interwoven with all our familiar sensations are ideas of past experiences; so that it is a matter of extreme difficulty to separate the net amount of sensation from the rest of the momentary impression. The physiologist must, it is clear, seek to make this separation, if he is to define accurately the effect of the stimulation; and thus he unintentionally aids the psychologist in understanding how widely the influence of intellectual activity extends in the more rudimentary stages of our mental life.

In the following account of some of the most interesting of recent physiological experiments with the senses, I propose to select simply those which bear directly on one of these two results: serving either to render more clear and precise the nature and laws of sensation, or to illustrate and confirm some general mental principle.

Perhaps the most striking of these experiments are those which aim at a more exact measurement of sensation. A number of physiologists, chiefly German, have occupied themselves with the objective mode of measuring the sensibilities already alluded to; and although some of the results of these investigations appear to add little to our knowledge of the general relation between nervous stimulation and conscious sensation, they are, perhaps, worth recording as data, by help of which such more general principles are to be arrived at.

With respect to the duration of a sensation, viewed as the effect of a nervous process, there are several points deserving attention. First of all, it is clear that the initial physical change occupies an appreciable time. It has been estimated that when a muscle is made to contract by communicating a short electric stimulus to the motor nerve, about one-sixtieth of a second elapses before the effect of contraction becomes visible. Yet there presents itself as yet no method of estimating the interval between the application of an external stimulus and the commencement of the resulting feeling. There are two distinct questions involved in this unsolved problem. The first relates to the transmission of a nervous impulse from the periphery to the sentient centres. This point has but little psychological interest. The second refers to the minimum duration of the nervous process in the central regions in order that a distinct sensation may result. It is very probable that there exists some limit of duration, below which a nervous change fails to produce a sensation, and it is supposable that at all times a vast number of such faint fugitive pulsations are passing through the brain, without contributing to consciousness any of its distinct elements. The number of vague transient feelings which fill up the interstices of our clear conscious life, may probably be interpreted as the immature products of too rapidly ceasing pulsations in the nervous substance. Any advance towards the proof and measurement of this minimum interval would be of great value in helping one to determine the minimum duration of a definite and recognisable sensation. Such a discovery, if possible at all, could only be made by the help of just such objective experimentation as that already accomplished. The

physical processes taking place in the hidden structures of the brain lend themselves to no immediate observation, and can only be approximately determined as the intervening stages between an observable stimulation at the periphery of a sentient nerve and a discoverable effect in the subject's mind.

If it be as yet impossible to measure the velocity of an inward nervous current, a good deal has been done to determine the duration of such a current in the central regions. It is well known that a nervous change lasts considerably longer than the contact of the external stimulus which sets it agoing; and this fact is of great significance in the explanation of the ideal reappearances of the sensation. The existence of this self-prolonged sensation is best observed in the impressions of the eye, and it is here that the phenomenon has received the most precise estimation.

Students of optics are familiar with the fact that when a circular disc, having alternate black and white sectors, is made to rotate about an axis, there is a certain rate of rotation above which all single impressions of the black and white surfaces cease, giving place to a continuous sensation of grey. This is at once accounted for by the nervous law just referred to, that movements in the fibres and grey substance produced by external stimulation outlive this stimulation by a certain brief interval. The impression left at any given point of the retina by a white sector continues unabated during the brief interval in which the black sector passes over it, and the effect is the same as if the quantity of light issuing from the white sectors were distributed uniformly over the whole surface of the disc. By ascertaining the time occupied by each rotation, and the fraction of the whole circumference represented by the width of the black sector, it is possible to measure the exact maximum duration of an impression of light in its unabated intensity. The physiologists who have attempted this experiment have reached slightly different results. Thus Plateau found that in ordinary daylight the time of transition of a black sector, and so of the unchanged impression of light, could be made as large as ·191 seconds. Professor Helmholtz, again, says that with strong lamplight the time of transition must not be greater than $\frac{1}{4}\frac{1}{8}$th of a second, though in weak moonlight it may be as much as $\frac{1}{2}\frac{1}{0}$th.* It should be added that when the light

* See his *Handbuch der physiologischen Optik.* Part II. § 22. *Die Dauer der Lichtempfindung.* This work, besides being a great original contribution to the subject, gives very full accounts of previous physiological investigations and theories dating from the earliest known discoveries.

is weaker the time of the unchanged after-impression is greater, there being here less exhaustion of the nerve by the successive stimulations. Further, rays of different colour appear to produce after-effects of unequal durations, an impression of blue remaining longer than one of red or yellow. This fact is susceptible of a peculiar interpretation on the hypothesis of Thomas Young as revived by Helmholtz. According to this, there are three classes of fibres distributed through the retina, sensitive to red, blue, and green rays respectively. From this it would follow that the fibres sensitive to blue are most susceptible of the after-effect we are now considering, their molecular movements being in their nature the most prolonged. Again, Plateau sought to determine the time during which this after-image (Nachbild) continues in decreasing intensity. This was found to be greater as the light was stronger. From this it follows that a powerful stimulus of light produces an after-impression which begins to fade much sooner than that of a feeble stimulus, though it has on the whole the longest effect. These same experiments with the discs show, too, that the after-impression of a light-stimulus depends simply on the quantity of light falling on a given point of the retina, so that it is the same thing whether an intense light acts for a brief interval or a faint light for a longer interval.

Another interesting point in connection with the duration of sensation, is the time required for exhausting a nerve. When, for example, a fibre of the optic nerve has been stimulated for some while, there presents itself, instead of the positive effect just considered, a negative one, namely a temporary diminution of the nerve's sensibility. This fact accounts for the phenomena of negative after-images. Helmholtz tells us that in order to experience these in greatest distinctness and for the longest time, it is best to let the first stimulating light act for a period of five to ten seconds. In this case the positive after-effect is evanescent and inappreciable. He found that, under these circumstances, a negative image of some bright clouds remained as long as eight minutes. It has been established, further, that rays of different colour exhaust the optic nerve with unequal rapidity. According to Young's theory, the complementary image that succeeds a long impression of a given colour arises from the temporary incapacity of the corresponding class of nerve fibres. Thus, after looking some time at a green object, the fibres sensitive to green rays become exhausted, so that when the eye is afterwards directed to a white surface, the part of

the retina which received the green rays is unaffected by the corresponding ingredients in the white light, and so the resulting sensation is that produced by the remaining rays, namely, the complementary impression of purple. This negative effect on the nervous substance seems, like the positive one already described, to have a different duration in the different classes of fibres. An impression of white light, as afforded by the sun, may sometimes leave a series of images of various colours, and this phenomenon is probably due both to the various susceptibility of the three classes of fibres to a positive after-impression, and to their unequal liability to exhaustion. At the same time it seems impossible, according to Helmholtz, to assign proportions to the two influences in this compound result.

Although the phenomena of self-sustaining nervous activity and of temporary exhaustion seem only susceptible of accurate observation in the region of visual impression, they pretty certainly extend to all departments of sensation. Thus, it is very easy to observe at times a lingering after-sensation of tone left by some external stimulus, though I am not aware that this special nervous susceptibility has been similarly investigated.

One or two questions present themselves in connection with these data which can hardly fail to interest the psychologist as well as the physiologist. For example, is the rapid obliteration of the after-impression simply one aspect of nervous exhaustibility? It seems presumable, on antecedent grounds, that nervous fibres which are but slightly retentive of this after-effect should be greatly liable to exhaustion and the need of periodic repose. Helmholtz seems to think there is a connection between the two in the region of visual sensation, though he says (p. 383) we do not know the law of their dependence. Comparing the nerves of the different senses, one would be inclined to say that those which display most conspicuously the capacity for after-impression, pre-eminently the optic nerve, retain their sensibility longest under the action of a uniform stimulus.

Again, it might be asked whether the degree of persistence of the after-sensation bears any constant relation to the degree of the sensation's susceptibility of ideal reproduction. The impressions of the eye, which manifest most conspicuously the first quality, are also among the most easily recovered of our sensations. Further, it has been observed by Purkinje and Aubert, that an impression of light fades away much more quickly on the peripheral parts of the

retina than at the centre, and it is clear that our visual recollections consist almost exclusively of ideas of impressions projected on the central region of perfect vision. Hence it is just possible that a more exact method of estimating the duration of this later effect of stimulation in the other sensations would bring to light a simple law of co-variation between the two. It may be presumed, too, *à priori*, that since these positive after-images probably imply a self-sustained activity in the related parts of the centres after the peripheral stimulation has ceased, they will involve, as a further consequence, a liability to central activity without any such peripheral initiation, that is to say, the physical process which underlies the ideal revival of the sensation. The liability of the nerves to temporary exhaustion appears, still more clearly than susceptibility to after-impression, to be a universal property of the cerebro-spinal system, constituting the physiological basis of the well-known psychological fact, that conscious life is a continual transition. At the same time, this need of relief does not present itself in precisely the same forms in all modes of nervous action. As we have seen in the case of visual impressions, the fibres sensitive to one variety of coloured light are much sooner exhausted than those which subserve another kind of sensation. It would be interesting to inquire whether the demand for temporary cessation is not greater in the case of those parts of the nervous system least employed in daily life. Apart from that increased facility of the directing muscular action which results from the frequent repetition of any impression, it is quite conceivable that those sentient fibres which are most frequently used, come to possess an increased capacity for unbroken work. If, as we have seen to be probable, great liability to exhaustion goes with feeble tenacity of after-impression, the fact just now mentioned, that the peripheral parts of the retina display the lowest degree of sensational persistence, would appear to favour this view of the effects of exercise on the working capacity of a nerve.*

Finally, it may be hinted that if the force of resistance to ex-

* On the Evolution Hypothesis it might be possible to explain any innate inequality in this respect, for example between the optic and the gustatory nerve, by supposing them to be the effects of long processes of exercise through many generations. It seems plausible, indeed, that both the properties of nervous fibre here spoken of, the capacities for prolonged stimulation and for post-stimulative action, are gradually strengthened with the functional development of nervous tissue.

haustion varies directly as the power of sustaining an after-impression, and if this latter varies directly as the power of ideal revival or recollection, one must expect to find among those classes of sensations least susceptible of this revival the least capacity for sustained and unbroken feeling. Thus for example, tastes ought, on this supposition, to fade away much more rapidly, and to require a change of stimulation much sooner, than sensations of colour of equal intensity. Whether this is so, may well be left to the individual reader to decide from his own experience.

We may now pass to the consideration of another class of investigations into what may be called the dimensions of a sensation, namely the numerous attempts recently made to measure the intensive and extensive magnitude of sensation. By intensive magnitude is meant the strength of a sensation; by extensive magnitude, its volume, which roughly speaking corresponds to the area of the sentient surface and the number of nervous elements acted upon. Professor E. H. Weber led the way to these investigations in his famous discoveries respecting the various degrees of tactile and muscular sensibility resident in different parts of the bodily surface. Others have carried similar modes of inquiry into the region of visual sensations. Finally the results of these many experiments have been collected and formulated into a general law by Weber's colleague Professor G. T. Fechner. In giving an account of these investigations I shall be able to quote almost entirely from this author's works.*

It is clear that the intensity of a sensation, as distinguished from that of its external stimulus, is entirely a matter of subjective feeling. At the same time, as I have already hinted, mere subjective feeling would tell us very little about the general quantitative relations of our sensations. In order to reduce these scattered and isolated subjective appreciations to something like a general law, it is necessary to study them in conjunction with certain definite variations in the objective cause. By this means one may learn how the feeling of magnitude varies with changes in the absolute magnitude of the object, and so reach a more precise and scientific statement of this particular aspect of the coexistence between body

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* Fechner has several statements of his general theory in the *Abhandlungen der sächsischen Gesellschaft der Wissenschaften*. His most systematic exposition is to be found in his *Elemente der Psychophysik*, and from this work I have mainly quoted.

and mind. This is Weber's method, as it has been enlarged and rendered more precise by Fechner.

By the mere introspection of our sensations we know first of all the fact of their equality, and secondly the bare fact of their inequality as greater or less. As a general rule it is impossible to say that one sensation is twice or three times as intense as another. We do, no doubt, speak of a light being twice as bright as another, or a sound twice as powerful; but such numerical judgments are generally very indefinite, and involve for the most part a reference to some objective measure; as for example that the sound twice as powerful would produce the same force of sensation as the other at twice its distance. Further, it may be added that when the sensations are of different orders any estimation of their relative intensities is very inexact. Thus it is often impossible to say that one sensation of tone is more intense than another of colour. In cases where our judgment is very unwavering, it will be found that we compare the sensations *mediately*, by means of the average strength of either class. Thus when an impression of light rises in intensity far above the common level of light-impressions, and another sensation of sound sinks far below the level of its class, we do not hesitate to pronounce one more intense than the other. Another mediate mode of measurement is to reckon the distance of each feeling from the limits of distinct sensation. Thus it is clear that two impressions of sound and light, each of which approached very closely the *minimum sensibile*, would be reckoned as about equal. Yet this method, again, is only very faintly and imperfectly employed in individual and subjective judgments. In proportion as the heterogeneous sensations have any element in common besides mere force, as a pleasurable or painful quality, they are of course much better susceptible of this direct measurement.*

* Still even here one may see the impossibility of reaching exact appreciations of equality or inequality between heterogeneous feelings. A pleasure of light or of colour can be much more precisely measured with another pleasure of the same sense than with one of another sense, and nobody probably would attempt to determine the exact equivalent of a sensuous enjoyment in the sphere of imagination. Hence perhaps the habit of setting one class of pleasures above another because of an average superiority, even though the intensest of the inferior class are much greater than the feeblest of the other. I think it might be shown that it is this practical device, of great value where exact measurement is precluded, which has led to the supposition that pleasures excel one another, not only by virtue of strength and duration, but also by virtue of their qualitative differences.

The methods, then, of estimating the force of sensation by objective experiment need to recognise both these limitations: first of all, that exact immediate comparison is confined to sensations of the same genus, and secondly, that it can only make known their equality, or their inequality as greater or less. Acting on this knowledge, Fechner has sought to construct a standard of sensuous quantity for the various parts of an organ, and for different states of the same part. His statement is as follows: The sensibility of an organ at a particular time, or of a particular part of an organ, is reciprocally proportional to the magnitude of the stimulus requisite, then and there, to produce a sensation equal in intensity to a given sensation. Thus if weights of five and six pounds are required to produce equal degrees of muscular feeling on the same part of the surface at different times, or on different parts of the surface at the same time, we may say that the sensibility in the first case is to that in the second as 6 : 5.

There is one circumstance that greatly favours the employment of this method of measuring sensibility. It is a well known fact that every stimulus must be of a certain force before it can produce any sensation at all. Objective light may actually impinge on the retina, and yet be of such feeble nature as to be unnoticed. Similarly, sounds, when travelling from any considerable distance, enter the ear without having any appreciable conscious effect on the auditory nerve. Now if we can estimate the objective force of two external stimuli which are just adequate to produce sensation on two occasions, or at different parts of an organ, we have in their ratio a very precise measure of the respective degrees of sensibility.

This measurement of the force of an external stimulus is capable of being made very exact in some instances, by employing the principle of the conservation of force, and by means of the excellent apparatus of physical science. Thus for example, Schafhäutl sought to determine the precise value of the physical impetus requisite to produce a sensation of sound. He calculated that a piece of cork, weighing 1 milligram, falling through 1 millimetre on a glass plate, produces the faintest observable sound, the observer being ·91 millimetres from the plate. In the case of the eye's sensibility to light, it is impossible to determine the exact degree of physical light requisite to produce a sensation in a perfectly dormant nerve, since even when all external light is excluded from the eye, the nerve is known to undergo a certain amount of "subjective stimulation" resulting in what Helmholtz very aptly terms the eye's *Eigenlicht*, or

own proper light. In the case of weights, estimated by sense of pressure, it is very difficult to determine the minimum pressure perceptible, since other tactile sensations, such as the feeling of smooth and rough surface and the sense of temperature, are pretty certain to co-operate with, and so to disguise, the particular feeling tested. Finally, in the case of the so-called chemical senses, taste and smell, we have as yet no method of reckoning the degree of the physical force which constitutes the stimulus.

The immense value of this physical method consists in its applicability to the sensibilities of different individuals. It is obvious that we cannot, in one subjective judgment, directly compare the sensations of two or more persons, as we can those of two organs of the same individual. Still we may roughly assume that the least perceivable sensation of every mind is an invariable quantity, and in this manner we can reach a measure of the relative sensibilities of different persons. These will clearly be in the inverse ratio of the physical stimuli needed to produce the faintest recognisable sensation.

From sensibility to stimuli, or absolute sensibility, Fechner distinguishes sensibility to differences in stimuli, or discriminative sensibility. While the former may be measured by the magnitude of the stimulus fitted to produce a sensation equal in intensity to a given sensation, the latter is to be estimated by the magnitude of the *difference* of two stimuli needed to produce a certain change of feeling. In both these cases, the greater the objective cause required, the less must the subjective sensibility be supposed to be. Thus if, in order to effect a certain difference of sensation, a greater change of light-intensity is needed at the circumference of the retina than at the centre, we may conclude that the latter part possesses the greater discriminative sensibility.

Here again we have the all-important fact that a certain amount of change in the objective force of a stimulus is possible without any variation in the feeling produced. That is to say, there is a certain limit below which our several sensibilities are unable to discriminate. This boundary, which we have found to belong to both absolute and discriminative sensibility, Fechner calls the "threshold" (*die Schwelle*). Its existence in the case of discriminative sensibility is very easily proved. Objective light, sound, and pressure may all be made to vary within very small limits without the subject, upon whom the experiment is made, detecting any change. Further, this threshold offers, as in the case of ab-

solute sensibility, the best means of measuring two or more discriminative sensibilities. If we compare two parts of the retina, or two regions of tactile surface, we find it very difficult to pronounce a change of impression at one part to be exactly equal to a change at another. But the fact that there exists a least-noticeable difference of stimulation makes this rough method of estimation unnecessary. Thus if, in comparing the discriminative sensibility to pressure at the palms and backs of the hands, we are able to discover in each instance the exact amount of objective change required to produce the faintest sense of difference, we may conclude that the ratio of the two sensibilities will be inversely as that of the amounts of change. Similarly, this method is perfectly applicable to an estimate of the relative degrees of discriminative sensibity of different individuals. The smaller the amount of variation in the stimulus perceptible, the greater must be the person's delicacy of sensibility. In this manner the ear's sensibility to the pitch of tones is found to be of very unequal degrees of delicacy in different persons. It might also be shown, perhaps, that very wide differences in the eye's discrimination of colours exist in different individuals.

Hitherto we have been considering discriminative sensibility without any reference to the absolute magnitude of the sensations distinguished. It has been assumed provisionally that the eye, for example, recognises quite as fine shades of difference when the compared impressions of light are very powerful as it does when they are very feeble. But a very little reflection shows that this assumption is incorrect. Everybody is aware that he is unable to recognise slight differences in weight when the weights compared are very heavy, though these same amounts of objective difference are very apparent when the factors of the comparison are small. So, too, it is demonstrable that the eye, when looking at a very bright object, as the sun, is unaware of differences of light-intensity which, if they existed between feebler constituents, would afford a striking constrast of sensation. Hence the question arises what is the relation of the discriminative power of a sense to the absolute magnitude or force of the sensations to be distinguished?

With the view of solving this problem Fechner has conducted a large series of experiments, varying in every possible manner the absolute magnitude of the stimuli to be distinguished, and always carefully noting the ratio of the amount of difference of the stimuli

to this absolute magnitude. He adopts three distinct methods of experimentation. The first is that of his predecessor Weber, and is named "the method of just observable differences." It consists in estimating the minimum amount of difference recognisable at all variations in the absolute intensity of the stimuli, and in studying the ratio of such difference to the absolute quantity of the stimulation. The second method, named by Fechner "the method of correct and incorrect instances," is more intricate. When two stimuli, say two weights estimated by muscular tension, are very nearly equal, the subject of the experiment will fail at times in a large number of trials to recognise which is the greater. The greater the objective difference of the stimuli, or the greater the sensibility of the individual or the part tested, the greater will be the ratio of correct to incorrect estimations. It is the object of this method to determine the exact amount of difference between two stimuli, or, more correctly, the relation of this amount to the absolute magnitude of the stimuli, which will produce the same proportion of correct and incorrect instances at all possible values of the stimuli. In the third method, that of "average errors," the person who is experimented with seeks, by the aid of subjective impression alone, to make a stimulus, say a weight, equal to another and fixed quantity, by gradually adding or taking away. In doing this, slight errors will be made, and the object is to determine the average error in a large number of trials, and to assign the ratio of this amount to the absolute magnitude of the stimuli employed.

As the result of experiments according to all these three methods, Fechner arrives at what he calls a general "psychophysical law," and also "Weber's law" since Weber's experiments first distinctly pointed towards it. It may be expressed somewhat as follows: When we have to do with one and the same sensibility, as the muscular sensibility of a given part of the body at a given time, we find that the least recognisable difference between two stimuli is not the same absolute magnitude for all variations in the magnitude of the stimuli, but is a constant fraction of this magnitude; and that only those differences of stimuli are felt to be equal which stand in one and the same ratio to their respective stimuli. From this it follows that, the greater the force of stimulation employed, the greater will be the minimum amount of objective difference recognisable. To put it in another way and more as a psychological law, one may say that the more intense a

sensation, the greater must be the added or diminished force of stimulation in order that this sensation undergo an appreciable change of intensity.*

The full import of this law, from a psychological point of view, will have to be spoken of by-and-by. At present it may be sufficient to say that it is a most important step in the process of determining and formulating the precise relation of nervous processes to mental states. It is clearly connected with those facts of nervous exhaustion of which mention has already been made. Further, it is possible, as Fechner seems to think, that it holds good for all regions of consciousness. Provided, for example, that one could estimate the force of an organic stimulus in prompting a given form of emotion, one would probably find that for every sensible increase of the resulting feeling, a greater and greater increment of initial stimulation is requisite.†

Confining ourselves, however, to the facts of sensation, we find that this psycho-physical law comprises a vast number of very interesting phenomena. They are too numerous to be described in detail, yet a few illustrations may serve to render this abstruse principle a little more intelligible.

The most interesting of all our sensibilities is undoubtedly that of the eye. The fact that with variations in the intensity of the objective light very unequal differences are perceived, has long been known. Stars are seen in the night, and not in the day, although it is demonstrable that at both times the difference of light-intensity between them and the intervening sky is the same. Experiments were conducted at the end of the last century by Bouguer, and have since been repeated by Fechner and Masson, in order to determine the relation of this visual discrimination to the intensity of the stimulus. Bouguer took two wax tapers of

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* Fechner gives this law a mathematical expression. If $r$ = stimulus, $e$ = sensation produced by $r$; $de$ = increment of sensation when $r$ increases by the infinitesimal quantity $dr$; then, if $c$ is a constant, $de = \frac{cdr}{r}$. That is, the increment of sensation ($de$) is constant so long as the ratio of the increment of stimulation to the stimulus itself $\left(\frac{dr}{r}\right)$ remains unchanged. Since logarithms are known to increase in equal degrees when the numbers so increase that the increment has always the same ratio to the magnitude of the number, we may say that "sensation increases in proportion to the logarithm of the stimulus."

† The difficulty in ascertaining this point is obviously due to the number of contributing ideal sources of feeling in an emotion which more than outweigh the effect of the single initial stimulus and sustain it long after this has ceased to act.

equal flame, and set them before a white screen. Between the tapers and the screen he placed a rod, which, from its position, projected two shadows on the screen. He then slowly removed one taper further and further from the screen, till the shadow thrown by it just disappeared. The difference of objective light between the two indistinguishable surfaces (the shaded and unshaded) clearly represented the limit of the eye's discriminative appreciation. He calculated from this that the eye is able to distinguish $\frac{1}{64}$th of a given light-intensity. Fechner and his friends, adopting the same method, estimated the discriminative sensibility at $\frac{1}{100}$th. Masson, employing rotating discs, judged that the eye can distinguish a change of $\frac{1}{110}$th in the intensity of light. Each of these results answers equally well to Weber's law, and it is possible that the want of agreement points to considerable individual differences of discriminative vision. It is only right to add that Fechner admits the inapplicability of the law to very feeble, as well as to very intense impressions of light. Beyond certain limits, both above and below, a much smaller fraction of change than the normal one is recognisable. He accounts for these anomalies by supposing that with very blinding light some injury is done to the nervous substance interfering with its regular function; and that when the external stimulus is very feeble the operation of the subjective stimulus, the *Eigenlicht* of Helmholtz, appreciably blunts the sense of difference for external stimuli.

A very brief reference to the other illustrations of this law must suffice. With respect to auditory impressions, it was estimated by Renz and Wolf (Vierordt's *Archiv*, 1856) that two sounds whose objective intensities are in the ratio of 100 : 72 are clearly distinguished. When the ratio was as 100 : 92, the correct judgments only just exceeded the false ones. Volkmann experimented with the same sensibility by means of a steel ball falling on a steel plate, the weight of the ball, height of the fall, and distance of the listener being varied. The result of his experiments was much the same as that just given, a ratio of 3 : 4 in intensity being found to be sufficient to afford the listener a confident judgment. With respect to the height or pitch of tones Weber showed that when two intervals are felt to be equal, the ratio of the numbers of vibrations of the two tones distinguished in each case is the same.* In the

* The fact is curious as appearing to point to a certain analogy between the effect of rapidity and that of amplitude of vibration in the molecules of the

case of the muscular appreciation of weight, Fechner supplemented the experiments of Weber by applying the method of correct and incorrect instances to the problem. As a result of a series of trials with liftings by one hand (in 1856), and with liftings by two hands (in 1857), he found that as the weight is increased and the difference increased in exactly the same ratio, the fraction representing the proportion of correct to incorrect judgments is pretty constant. At the same time, a deviation from this uniformity was discovered at the lower extremity of the series when the weight employed was 300 grammes or less. Once more, Fechner tested the validity of this law in the case of sensibility to temperature, and found that within certain limits of temperature (20° R. to blood-heat) the differences just observable were always proportional to the elevation of the particular temperature above a point lying midway between freezing-point and blood-heat (14·7° R). That is to say, if we reckon the intensity of heat or cold by its distance from a medium point of sensuous indifference, we find that the discriminative power follows Weber's law within certain limits. On the other hand, from 20° down to 10° the sensibility to change was so great, that it was impossible to give the least noticeable difference a precise value, while below 10° this minimum grew larger than was required by Weber's law.

From the whole of Fechner's investigations it appears that for all the senses in which the force of the objective stimulus is distinctly appreciable Weber's law is found to have a certain measure of validity. In order to make it a precise expression of a universal law of sensibility, it would be necessary to discover some method of estimating the force of the stimuli in the case of sensations of taste and smell, and also to account more completely for the slight deviations from this regularity beyond certain limits of intensity.

Thus far we have been treating of the quantity of a sensation in respect of its force or intensity only, and have not discussed what has been termed the extensive magnitude of these elementary feelings. This property is connected, as has been hinted, with the number of nervous elements involved in the sensation. To assume the existence of this aspect of sensation as an ultimate fact involves, it may be said, no theory of immediate perception of ex-

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stimulus. Yet this supposition is not confirmed by the phenomena of vision. The smallest perceptible differences between coloured rays do not correspond to a constant ratio in the number of vibrations of the rays distinguished.

tension in any of its forms. It simply implies that homogeneous sensations, as impressions of light, are somehow distinguished according to the nervous route along which the stimulation travels; and that there is a clear and marked contrast between a sensation produced by means of one or a few fibres, and one in which a large area of nervous elements is acted upon, which contrast, moreover, is in nowise to be confounded with that which exists between a great and a feeble intensity.

This mode of sensibility may, like the other, be regarded as either absolute or discriminative. By the former is meant the simple appreciation of extent or volume in a single sensation; by the latter, the discrimination of different quantities of extent or volume in more than one sensation. Each of these is found, too, to have its threshold or limiting condition in the originating stimulus. Thus, to speak of the simpler phase of this sensibility, it is found that every stimulus must act on a certain area of the sentient surface, in order that any distinct feeling of extension or volume may arise.* For example, a number of pencils of rays, of very unequal circumference, may, nevertheless, if they all fall below a certain limit of circumference, alike fail to be distinguished from unextended points. Similarly, one may apply to the skin a number of finely pointed objects, all of which will appear unextended, though they may be seen to be of very unequal areas. This mode of absolute sensibility, it may be added, is susceptible of just the same kind of comparative estimation as the intensive. The hand which distinctly recognised a surface with the smallest actual area of the applied object, would clearly be the one most highly endowed with this sensitive property. It is, however, in the form of discriminative sensibility that the feeling of extension commonly presents itself. In distinguishing different points and lines, and in comparing linear and superficial magnitudes, this mode of sensibility plays a very prominent part, and is a prime factor in the mind's progressive knowledge of external objects. And it is this form, which may perhaps be called discriminative local sensibility, that has received the nicest measurement in the experiments referred to.

The simplest exercise of this sensibility is the discrimination of two adjacent points. Whenever two stimuli, as two rays of light

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* In the case of visual impressions, it is known that some area of operation is required to produce any sensation at all. This fact, however, bears rather on the estimation of intensity than on that of extensive magnitude.

or two points of a compass, simultaneously act on the sentient surface, it is found that there is a certain minimum interval of distance by which they must be separated in order that two distinct sensations may follow. This fact has been made use of by Weber in his now famous researches into the relative degrees of tactile sensibility at various points of the bodily surface. It has also been employed to estimate the fineness of the eye's local sensibility in different regions of the retina. Weber and Helmholtz found that at the centre of the retina two points of light are recognised as two, when the centres of their retinal images are from ·0046 to ·0052 millimetres apart. Aubert and Förster, again, discovered that this delicacy of local sensibility disappears very rapidly from the centre towards the periphery of the retina, this decrease being most rapid towards the upper and lower parts, least rapid towards the outer regions. It has been supposed that this mode of local sensibility is related to the area occupied by an elementary nervous fibre. Weber conceives that two points applied to the skin, must, in order to be distinguished at all, lie within the circles of two different nervous extremities. Helmholtz interprets the facts in another way, reasoning that two points of light can be distinguished only when the distance of their retinal images from one another is greater than the diameter of a nervous element. Otherwise, it is clear, they would fall either on the same elementary nervous fibre, or on two contiguous fibres. In the first case they would obviously produce but one sensation. In the second they would produce a double sensation; but these would not, he argues, be recognised as the effect of two points, since they might equally well follow from a single point projecting its image exactly on the boundary of two contiguous elements.

There are other modes of visual sensibility recently examined by physiologists, which are closely connected with this sensibility to distinct points. I refer especially to the feeling accompanying the convergence of the two axes, and to the sense of dissimilarity in the two retinal pictures. The appreciation of distance by one eye alone through the feeling of muscular tension in accommodation has recently been measured by Wundt.* In these experiments the local sensibility of the different nervous elements of the retina was

* He made the observer look with one eye at a vertical black thread through a split in a screen. This source of judgment was found to be very vague. At a distance of 250 centimetres nothing less than an approach or removal of the thread by 12 cent. was observable.

not tested. On the other hand, in an experimental inquiry made by Helmholtz into the precise degree of the visual discrimination of the two retinal pictures, the basis of the judgment was the discriminative local sensibility just spoken of. Helmholtz used for this purpose three vertical nails, attached to the ends of three small pieces of wood at right angles to the same, at distances of 12 millimetres from one another and 340 millimetres from the observer's eye. He then stood with his eyes slightly below the other extremities of the laths, so that the line of attachment of the nails and wood was invisible. Under these circumstances, his only means of judging whether the three nails were in the same vertical plane was the comparison of the two vertical pictures. In so far as they were not, it is clear that the image of one retina would have a different local arrangement from that of the other. Helmholtz found, as the result of his experiment, that a slight deviation of the nails from a plane, such as would cause a local disparity of the two retinal images of ·0044 millimetres, was at once detected. And thus we see, as might antecedently have been conjectured, that the delicacy of the feeling of extension as applied to the coincidence or non-coincidence of the two retinal images is precisely the same as that of the sensibility exercised in the single eye's discrimination of points.*

Of scarcely less interest than the foregoing, are some researches of Wundt into the visual estimation of distance by help of the variations in the convergence of the two eyes. He used for this purpose a black vertical thread, viewed by both eyes through a horizontal slit, and movable to and from the observer. At a distance of 180 centimetres a change of distance of 3·5 to 5 centimetres was observable. An approach of the thread at this distance by 3·5 cent. implies a movement of each retinal image through 72 seconds angular measure, and this corresponds pretty exactly to the minimum interval of distinguishable retinal points. Thus, it would

* This feeling of local disparity between the images of the two retinas, which subserves stereoscopic vision or the perception of solidity, has another limit. In order that any part of an object viewed with both eyes may be seen single, its two images must fall within retinal areas circumscribed with respect to each other. That is to say, there is a circle of oscillation within which one image may move while the corresponding image on the other retina has a given locus. This boundary has also been determined by Volkmann. It appears to vary with different persons, and is clearly determined less by any original organic condition, such as accounts for the discrimination of points by a single eye, than by the effects of experience and disciplined attention.

appear that this mode of estimating distance is confined to the sentient nerves, and is not assisted by any feeling accompanying involuntary movements of the eyes. Indeed it may reasonably be regarded as a particular case of the discriminative local sensibility as tested by Helmholtz in the experiment just described.

These facts are highly curious as serving to show the exquisite delicacy of local sensibility, especially that of the retina, and they must be fully recognised in any attempts to establish the derivative character of the visual perceptions of space. The question, however, which at present interests us is whether they illustrate and confirm the psycho-physical law of Weber and Fechner. Does the discrimination of two extensive quantities depend, like that of two intensities, on their absolute magnitudes, so that the greater the magnitudes the larger the minimum amount of difference noticeable? In order to answer this question, Fechner, assisted by Volkmann, conducted a series of experiments with sight and touch. In the case of sight they both proceeded according to the method of average errors. Fechner employed two pairs of compasses, of which the tips only were visible to the observer. One of the pairs was kept fixed, and the legs of the other were gradually brought together or removed from one another till the observer deemed them to be just as far apart as those of the fixed pair. Volkmann used three vertical threads, stretched by weights, and movable to and from one another, and made the two extremes apparently equidistant from the centre according to the judgment of the observer. As the result of both these sets of experiments it appears that the discrimination of extension depends, like that of force, on the absolute value of the magnitudes employed. Thus Fechner found that the magnitude of the average error was about $\frac{1}{50}$nd of the sum of the magnitudes compared, and Volkmann calculated that it was from $\frac{1}{38}$th to $\frac{1}{101}$st of the same. In other words, we see that the amount of error varies directly, and therefore, the degree of discrimination, inversely, as the absolute magnitude of the extensions compared. Here again it has been assumed that the comparison of two lateral distances by the eye is effected solely by means of the local sensibility of the retinal elements. Probably in these exact measurements this is so, though it is no less true that the amount and duration of the eye's movement in passing along the given distance afford through the muscular feelings another, even if a less delicate, instrument of visual measurement.

While these experiments appear to bear out the applicability of

Weber's law to our various feelings of extension, Fechner and Volkmann both found that with respect to touch no discoverable relation exists between the minimum amount of difference observable and the absolute magnitude of the extensions compared. Fechner hesitates therefore to assign to his law any universal validity for discriminative local sensibility.

One other point deserves mentioning before leaving the subject of quantity in sensibility. We have dwelt on an absolute and a discriminative sensibility to stimuli. The one is measured by the amount of objective force needed to produce a sensation of given intensity, say one barely recognisable; the other by the amount of change required to produce a sense of difference of a given quantity, say one barely recognisable too. Is there any connection between these two sensibilities, thus measured? Does sensibility to difference run parallel to absolute sensibility, so that when the latter is diminished by ill health or exhaustion the former falls to a lower fraction? It is proved, says Fechner, that this is not the case, but that on the contrary any variation of absolute sensibility which intensifies or weakens in the same proportion the effects of two stimuli leaves the feeling of their difference unaffected. Similarly with respect to the sensibilities of different parts of an organ. Weber's experiments with weights showed that there is no correspondence between the absolute sensibility of a part and its discriminative sensibility. Two parts of the bodily surface, to which very unequal weights appeared to be alike, were, in spite of this difference of absolute sensibility, pretty equal in their power of discrimination. The fact that the eye loses with exhaustion a measure of discriminative sensibility is explained by Fechner by supposing that the subjective stimulation already referred to interferes in this case with the estimation of differences in external light.

After the increased precision given to the estimation of quantity in sensation, the next important result of a general character furnished by these experiments is to be found, perhaps, in the nicer determination of the ultimate elements in sensation. Our mature sensations, the only ones we are able to examine immediately, are for the most part compounded of numerous elements. Thus, the visual impression received from an external object is made up of a number of sensations of light, colour, and form. Up to a certain point subjective reflection is able to analyse these into their constituent parts. In many cases where a given element occurs apart from the other factors, whether alone or in other combinations, it is

possible to make a mental separation of it. Yet even here the fusion of the elements may be so complete and the resulting feeling so unlike its factors, that notwithstanding a distinct knowledge of the elements it contains, the mind fails to detect their existence in the compound. Still less possible is it to make this dissection, if two elements in a sensation never both occur apart from the other. Hence we can never be certain by mere subjective knowledge that any apparently simple sensation is not compounded of other and more elementary feelings. The only other fairly safe way, yet arrived at, of determining this point, is by studying the nervous processes. Assuming, as seems legitimate, that every separate nervous fibre tends, at least, to produce some peculiar mode of feeling, the physiologist may by an exact study of these nervous elements afford important suggestions as to the ultimate elements of sensation.

The physiologist who has reached by far the most brilliant results in this objective analysis of sensation, is Professor Helmholtz. His now famous doctrine of upper-tones is a signal instance of this method of research.* And he has followed a very similar line of inquiry in revising and elaborating the theory of Thomas Young, that all sensations of colour are compounded out of three elementary modes of feeling, those of red, green, and violet.† The phenomena of colour-blindness and a large number of other facts, both anatomical and optical, favour the hypothesis that three classes of optic fibres, answering to these varieties of impression, are distributed pretty equally over the surface of the retina. On this supposition our common sensations of colour are never, strictly speaking, elementary feelings, since even the purest coloured light of the spectrum is conceived as exciting, in some faint measure at least, more than one order of fibres. Thus rays of red light, though they stimulate most powerfully the fibres sensitive to red, are supposed to affect in a weaker degree the other two classes of fibres also. Hence, in order to produce a pure elementary sensation, it is necessary to incapacitate for a brief interval these other two classes of fibres. This may be done by first allowing the eye to rest awhile on a mass of the complementary colour, in perceiving which the fibres to be temporarily blunted are most actively employed. They

* See the following essay on *The Basis of Musical Sensation.*

† Professor Maxwell supposes the third elementary sensation to be blue rather than violet.

then become exhausted according to the principle already spoken of, and when the eye is turned to the required colour an approximately pure sensation is obtained. In this way it is possible, for example, by looking at a mass of purple, to obtain a subsequent sensation of green much purer in tone, that is, less whitish, than the green of the spectrum. It is needless, perhaps, to point out how impotent mere subjective observation had proved itself for discovering any combining feelings in an ordinary sensation of colour.

It may be well to observe that this physiological method of analysing sensation has its limits. The first of these is obviously the number of discoverable nervous elements and processes involved in a sensation. Whenever anatomical investigation shows the combined action of several distinct fibres, the resulting sensation may, hypothetically, be regarded as composite. At the same time it is known that, in the human organism at least, the combined action of several elementary fibres is necessary to the genesis of any distinct feeling. With respect to the separation of seemingly simple sensations into distinct temporal units, as for example sensations of sound into a rapid succession of pulses or shocks, physiological investigations do not yet seem to justify any very certain and precise conclusions.*

Hitherto we have been dwelling on those phenomena of sensation which appear to have equal importance for the physiologist and for the psychologist. We may now turn to those which have a principal bearing on proper psychological laws and truths. Our mature and disciplined senses present to us no longer the simple organic effects of external stimulation, but highly composite mental products, namely, perceptions and judgments, in which the primordial effect of the organic stimulus is nearly buried, so to speak, in the compact group of cerebral associates. Accordingly one may expect, in experimenting with the organs of sense, to light upon numerous illustrations of proper psychological processes.

As a prominent example of psychological laws thus verified we may take the great principle of Transition, or the law of change, to which the whole of conscious life seems to be subject. According to this principle, every distinct mode of feeling is a transition from

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* This analysis of sensation into successive, as contrasted with simultaneous, parts has been attempted in a hypothetical manner by Mr. Spencer as well as by M. Taine. See Spencer's *Principles of Psychology*, second edition, Part II., chap. i.; also Taine's *De l'Intelligence*, livre troisième, chap. i. and ii.

some unlike previous mode; and to speak of an unbroken uniform state of consciousness is self-contradictory. The principle has moreover its negative and its positive side. That is to say, we may consider either the inoperativeness of uniform stimulation, or the peculiar efficacy of wide variations and contrasts among stimuli. A large number of interesting facts in the region of sensation fall under each of these heads.

The impossibility of a prolonged unvarying feeling is probably too self-evident to require much illustration. Thus, it is well known that we soon grow accustomed to a uniform temperature in the surrounding atmosphere, and after a certain time are scarcely aware of its existence. Uniform pressure, again, such as the atmospheric, and in a less degree, that of our bodily parts and of our clothes, produces no distinct consciousness. In visual sensations we find the same law operative. What are called the subjective phenomena of vision—the effects of the eye's structure and contents on the impression of light—are for the most part inoperative on consciousness. It is only under extraordinary circumstances, as in exceptional states of health and of nervous vigour, that we are aware of these phenomena. A very curious illustration of this truth may be found in the non-perception of the shadows demonstrably thrown by the blood-vessels of the retina on its nervous layer. Ordinarily these shadows continue to fall on the same nervous elements, and so lose their effect. But Helmholtz describes a marvellous experiment by which a powerful concentrated light may be made to enter the eye by the sclerotic some distance behind the cornea; and the result of this is that the shadows of the vessels, now falling obliquely on new nervous elements, are distinctly perceived.

The other fact involved in this law, namely, the effect of change of stimulation on the character of the resulting sensation, is a far more intricate matter. The proposition that a great change of mental condition carries along with it a corresponding degree of vividness in the new feeling, is sufficiently clear and scarcely needs illustration. We all know that in order to receive, for example, musical sensations in their maximum intensity, it is needful to pass to them from some widely dissimilar order of feeling. This is simply a consequence of the necessity of periodic nervous redintegration. But in the effects of change on the recognition of distinct properties or aspects of sensation, there is something more complicated. The strength of a feeling, or any other of its aspects, qualitative or quantitative, is known only by comparison and contrast. A sensa-

tion does not, on its first arrival in the mind, betray its peculiar characters; but these have to be elicited by the help of other and remembered impressions. Now the first thing that seems well ascertained with respect to this discriminative sense is the need of an immediately present contrasting element in order to bring out the peculiar aspect of a sensation. Thus, to take an example of qualitative properties, it has been shown by Helmholtz that two adjacent colours in the field of vision always tend to appear in greater contrast *along their common boundary*. The proximity of its foil serves to bring out more conspicuously the peculiar differences of each shade.* A similar effect may be seen in quantitative discrimination. A room filled with furniture looks larger than an empty room of the same size, because it offers, along with the lines of the walls to be estimated, a number of smaller contours, with which the eye can immediately contrast the former. Another and yet more difficult problem connected with the discrimination of degrees and other properties of our sensations, is to determine the limits of this capacity, that is, to ascertain the conditions necessary to the detection of disparity between two feelings. And it is on this obscure point that Fechner's law throws a really valuable light.

It is clear that, in the experiments described by Fechner, the subject acted upon knows nothing of simple absolute difference, such as one perceives to exist between two unequal lines placed in juxtaposition, or the unequal durations of two contemporaneous events one of which ceases before the other. These absolute differences are known, indeed, strictly speaking, not through a difference of sensation but through a new and distinct sensation, namely, that afforded by the interval of space or time by which one of the factors exceeds the other. But in the processes now considered the discrimination of two intensities or of two extensive magnitudes is due to a comparison of the sequent impressions so far as they exhibit the property to be estimated. Thus, in seeking to discover the intensities of two tones, the listener's mind must pass and repass from one impression to the other until the peculiar shade of force in each is brought out in contrast to that of the other. Hence one

* This fact might perhaps be explained by the supposition that the proximity of the nervous fibres allows of the most favourable comparison by two consecutive acts of attention, without its being necessary to assume that, owing to slight movements of the eye, the two images really fall on precisely the same nervous filaments.

would be prepared to find that the absolute magnitude of the sensations compared would have something to do with the delicacy of the discriminative sensibility. Now Fechner's law accurately defines this relation, represented in terms of the objective stimuli, by saying that any two impressions are equally well discriminated when the quantity of the second bears a certain ratio to that of the first. In doing this, Fechner enlarges and renders precise the conclusion derivable from the phenomena of nervous exhaustion. As from these it was shown that a nerve after a certain degree of stimulation temporarily loses its sensibility, so by Fechner's investigations it is established that the greater the previous stimulation of a nerve, the greater is the additional stimulation required to produce an appreciable change of sensation.*

The illustrations of the law of change in qualitative discrimination, as, for example, in the highly curious phenomena of optical contrast, cannot be dwelt on now, and we may pass to another psychological truth frequently verified by recent experiments, namely, the dependence of all distinct mental life on the exercise of some degree of attention. It is a well known fact that when the mind is strongly preoccupied and attention engaged, many vague feelings and ideas flit about consciousness without leaving in memory any durable traces of their visit. And more than this, nervous processes which would under ordinary circumstances yield distinct and strong impressions, remain during such mental preoccupation without any appreciable effect. Thus moderate sounds fail to have any disturbing effect on a mind deeply absorbed in reading; and even a serious bodily hurt may be unnoticed in the awful excitement of a fight or the absorbing flurry of a flight from danger. At the same time, this influence of preoccupation has its limits, which it would be very desirable to have accurately defined. However engaged a person may be, a stimulation of light or sound above a certain force can hardly fail to arouse him.

The exercise of attention is a voluntary act and proceeds according to the guidance of some practical end. Where such a motive force is wanting, we find that sensations escape notice, so to speak,

* Wundt suggests, *Lehrbuch der Physiologie des Menschen*, p. 477, that the significance of Fechner's law is wholly psychological. This is scarcely an accurate description of the principle, since while it clearly embodies the law of change subjectively arrived at, it does so by regarding sensation not as a simple subjective phenomenon, but as a concomitant of nervous process and external motion. It is therefore correctly called a psycho-physical law.

that is, fail to rise into clear consciousness as distinct mental elements. On the other hand the presence of a powerful inducement, by detaining attention, serves to draw these vague and indistinct impressions within the horizon of distinct consciousness.

Each of these processes may be easily traced in the various departments of sensation. As interesting cases of impressions escaping consciousness I may point to the subjective optical phenomena already spoken of, as for example the lacuna in the field of vision due to the blind spot, and the double images projected by objects lying far out of the horopter. All these phenomena customarily pass unnoticed, though it is possible, under certain circumstances, to become aware of them by a deliberate effort of attention. It is, as Helmholtz very clearly shows, a like effect of inattention, when the first net impression in an act of perception is lost to consciousness under the more important and valuable inferential parts of the process. A proper understanding of the relations of pure sensation to inference, to which we shall presently have to turn, is only possible to one who distinctly recognises how impotent any part of an impression must be which fails either by its inherent force or by its practical interest to arrest and detain attention.

On the other hand, a deliberate act of attention will frequently extend the borders of conscious life by discovering impressions heretofore obscure and unknown. For example, any person may discipline himself to observe a number of unfamiliar optical phenomena. In like manner, also, according to Helmholtz, we may learn to detect the presence of those upper-tones which blend indistinguishably to the ordinary ear in a rich vocal note. A very curious instance of the effect of attention is to be found in the so-called "rivalry" (*Wettstreit*) of the fields of vision. If the reader will look through a stereoscope at two different colours he will find that he does not receive a single sensation of the colour compounded of the two, but that each eye perceives, in an irregular mode of alternation, the colour opposite to it. The same is true of two perfectly distinct figures or forms. Helmholtz found that a moment's ideal anticipation or involuntary wish is sufficient, through its influence on attention, to keep the one rather than the other before consciousness.

It would be interesting to know the precise physiological equivalent of this effect of attention. It is commonly assumed that this mental act, being a matter of the will, can only directly affect the voluntary muscles, adjusting them for a more favourable reception of impressions. No doubt this is one chief factor in the process. But

there are facts which seem to favour the supposition that an act of concentrated attention produces a flow of energy through the *sensory*, as well as through the *motor* fibres of the organ or part of the organ concerned, thereby rendering them highly susceptible to external stimuli. Thus, the reader is doubtless aware of a power of "conjuring up," to use a colloquial phrase, all manner of subjective tactile feelings, such as those produced by titillation. And it is obvious that the amount of muscular adjustment possible in the case of a great part of the tactile surface is very trifling. It clearly follows that, if this be so, every prolonged act of attention has a characteristic danger, namely, that of mistaking for an objective impression what is simply a subjective feeling. And this source of error ought, it would seem, to be allowed for in estimating such experiments as those by means of which Helmholtz and others profess to have discovered the presence of upper tones in a musical clang.*

It remains to point out, in connection with this subject, that, correctly speaking, some measure of attention is a necessary factor in every distinct sensation. No doubt there are myriads of vague feelings constantly flitting around the outer zones of consciousness, which being unnoticed cannot be recalled by memory. Yet even these are scarcely to be dignified by the name of sensations. They lack those elements of discrimination and comparison without which no distinct mental state is possible. Still less does it seem allowable to speak of "sensations" lying completely outside the boundaries of consciousness, the unknown correlatives of those nervous processes which fail to affect the conscious mind. The assumption of any such correlatives appears to me, even in the face of so considerable authority as that of Mr. Lewes, scarcely scientific, and certainly it would be more accurate not to designate them by a term which ordinarily connotes a measure of that intellectual activity which is in their case necessarily wanting.

The phenomena of sensation which remain to be considered involve the distinct effects of past experience and the action of association. These processes are too deeply interwoven into the fabric of our mature sensations to be overlooked by the physiological experi-

* A real instance of this effect of anticipation in misleading perception is quoted by Helmholtz. Goethe and Brewster both asserted that they could see blue and yellow light in green light, though it is now admitted that green light is elementary in its nature. These observers had a strong predisposition to detect blue and yellow in green from their familiarity with the effects of combining pigments.

menter; and the recent investigations with which we are now occupied afford many new and interesting examples of their subtle and far-reaching influence.

The effects of association may be detected not only in passive sensation itself, but also in the numerous movements which, though frequently unobserved, accompany and condition sensation. Our voluntary movements appear to be learnt by a very slow process. At first they are probably random and undirected, and they gradually acquire their definiteness and precision by help of special associations with sensation. Knowing nothing of our voluntary muscles, and of the motor nerves which directly excite them to action, we are incapable of originating any precise variety of movement until it is marked off by the addition of some special mode of feeling. The associated feelings which thus regulate precise muscular action are either those of the muscles themselves, or the passive sensations which are experienced as the immediate result of the movement. This truth is well illustrated in the very elaborate and delicate movements of the eyes, of which we are scarcely ever distinctly aware, and which are wholly controlled by the practical necessities of distinct vision. It is possible to reproduce in experiment the very process by which these movements were first learnt. Professor Helmholtz describes how this may be done. It was shown by Donders, and established by the subsequent investigations of Listing and others, that with every change of direction of the axis of vision in relation to the head there is a definite and invariable amount of rotation of the eye-ball about this axis (*Raddrehung*); and yet the nature of the eye's muscular apparatus easily allows of a large variety of rotations with every change of direction in the axis. This has been proved by Helmholtz in the following manner. He combined two prisms in such a way as to produce a slight amount of apparent rotation in the parts of the object looked at through them. If, with this simple optical instrument held before one of the eyes, an object is regarded with both eyes, it is clear that the image projected on the retina of the eye so armed will not fall on the nervous points which usually "correspond" to the points in the other retina simultaneously affected. The consequence is that double images of the object are seen. Yet Helmholtz found that after a number of efforts the eye learns to alter its rotation so as to allow of the two retinal images falling exactly on corresponding parts. In a similar way the customary combinations of adjustment and convergence may be gradually altered, as for example, with the use of

ordinary glasses or of the stereoscope. The axes may even be made slightly to diverge from one another and to point to different altitudes when, as in the case just described, such abnormal movements are rendered necessary for distinct vision.

It may be well to point out how these additions to our knowledge of the eye's movements appear to discourage the supposition that the higher orders of voluntary action are aided by connate and instinctive motor abilities. It seems strange indeed that if an inherited predisposition is produced by the accumulated experience of progenitors, this result does not exhibit itself more conspicuously in the movements of the eye. For Helmholtz is disposed to interpret the greater part of these as the product of repeated tentatives, slowly rectified and fixed by the guidance of practical needs, and acquired in the course of individual development.

Still more plainly, however, may we see the effects of association in the gradual transformation of elementary sensations into the apparently simple intuitions of the mature mind. No one, I may presume, would now deny that association enters very largely into our external perceptions. Yet there may be very different opinions as to the extent of this influence. Nothing but a long and laborious study of the phenomena of the higher senses, more especially those of sight, can give a just impression of the depth to which it penetrates in our mental structure.

At first sight, indeed, it may well seem a futile task to attempt to separate the pure elementary sensation from all the added effects of repetition and comparison of impressions, as well as from the after-growths of associated ideas. As we have already seen, the quality of a sensation undergoes a change simply in consequence of the absence of some foil or contrast which customarily helps to define it. There is little doubt, for example, that to the colour-blind the visual impressions received are qualitatively affected by the absence of so many of our elements of discrimination and contrast. How then, it may be asked, can we assume the existence of any ingredient in sensation perfectly independent of such extraneous influence, any net result of a peculiar variety of nervous stimulation?

The difficulty here raised is only an apparent one. It may be impossible to determine the precise boundary between sensation and inference, in its widest meaning; yet they are both known to exist. The sensation of green, for example, which arises through the action of light on a given class of the optic fibres, undoubtedly owes much of its clearness and sharpness to rapid and imperceptible compari-

sons with previous like and unlike sensations. Yet these very comparisons involve something fixed in the sensation itself, some property which must be referred to the peculiarity of the nervous process. The visual impression which I receive from a green leaf may be very vague, through inattention and the want of the recognising act of consciousness; but it has that which prevents my confounding it with an impression of red, and invariably leads me on a moment's reflection to classify it with one vaguely defined group of sensations rather than with another. The precision of the second and inferential part of the process depends, of course, on the distinctness of visual recollection, and on the proximity of similar and contrasted impressions. And hence it happens that, in the experiments alluded to, slight errors occur in the recognition of colours when some unwonted arrangement is introduced into the field of vision.

Professor Helmholtz roughly circumscribes the elementary or instinctive part of a sensation in the following way: nothing which is really instinctive can, he thinks, be dispelled from the mind by any circumstance clearly traceable to experience. If, however, a part of an impression, however elementary it may seem, is sometimes overcome and changed into its opposite by a mere ingredient of inference, it is not the pure result of the nervous stimulation, but depends, in part at least, on further and cerebral processes.* In this way, for example, we know that a person's recognition of a colour is in part an act of inference. The science of optics is full of the most startling illustrations of this displacement of inferences, which are so rapid and mechanical that they appear original intuitions to unscientific minds. What, for instance, seems more of an ultimate

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* It does not follow from this, however, that whatever is clearly the result of past experience can be expelled, even by the most convincing evidence of a contradictory character. Were it so, there would be none of that discrepancy between conception and belief which Mr. Mill has pointed out.

Dr. Stumpf in his acute treatise, *Ueber den physiologischen Ursprung der Raumvorstellung*, seeks to show the invalidity of this criterion; but his arguments are scarcely convincing. The non-perception of the lacuna in the field of vision is not an expulsion of a sensation by inference, since, as Helmholtz shows, there is no sensation corresponding to this area. So, too, it is no objection to this criterion to urge that we so often overlook sensations because the requisite guidance of attention by daily needs is wanting. For in these cases the sensation had never been present, and therefore could not be expelled. Helmholtz is speaking of sensations distinctly present at the moment; and of these it seems undeniable, that no amount of reflection or inference can transform them into their opposites.

intuition than the eyes' perception of the particular colour of a given object? Even if the recognition of distance and magnitude be shown to be an inferential, and, therefore, not necessarily infallible, process, one would suppose that in the perception of external colour there is not the slightest room for error. Yet the phenomena of simultaneous contrast conclusively show that every mental projection of an impression of colour into the object-world is an inference, and, as such, may be erroneous. Thus if, repeating Meyer's experiment, we look at a small piece of gray paper laid on a sheet of green, and covered by a thin sheet of white letter-paper of exactly the same size as the coloured sheet, we shall find that the fragment thus covered appears no longer of a gray, but of a decided rosy hue. Whatever the colour of the under sheet, the gray scrap appears complementary to it. This curious illusion has been thus explained: Not directly seeing the under sheet, and perceiving the green light shimmering through the thin white veil, we necessarily conceive this visible upper sheet to be of a pale green hue; and from this assumption, we *reason* that beyond the inferred greenish veil where the gray scrap lies—the pure retinal impression of which must be a dull white—there is a red surface. In other words, the actual impression of white, demonstrably afforded by the covered gray scrap, is unconsciously resolved into two elements, namely the complementary colours green and rose-red, and our attention is fastened to the latter because of its contrast to the rest of the field. Such errors of inference in the perception of objective colour are no doubt very slight, and are closely limited by certain conditions. Yet the very fact of their occurrence shows that one's supposed intuition of an object's colour is a different thing from his pure subjective impression or sensation of colour, and contains distinct ingredients of inference.

The great field for this disguised play of inference is that of our quasi-intuitions of space, as extension, distance, and magnitude. Nothing seems more clear to a person unaccustomed to analytical reflection, than that the eye has an immediate knowledge of these spatial relations. Yet, from the time of Berkeley's famous denial, growing knowledge of the eye and its functions has been gradually upsetting the popular creed. A large number of the facts thus brought to light, such as the celebrated discoveries of Wheatstone, are by this time familiar to all psychological students; and one may now, perhaps, safely assume that at least distance is no original factor of the retinal impression, but is only capable of being sug-

gested to the eye through the visual signs afforded by the feelings which attend adjustment, convergence, and change of retinal picture. As with distance, so with direction. It seems provable that the eye has no instinctive knowledge of the direction of a visible object; but that the perception of this, no less than that of distance, is an inference from our motor and tactile experiences. Helmholtz describes an experiment by which the acquired character of this perception is strikingly shown. If one takes two prisms and places them in the framework of a pair of spectacles with their angles of refraction both turned to the left, the optical effect is the apparent shifting of all objects seen to positions a little to the left of their real ones. If one then seeks to fix the exact direction of a particular object, and, having closed the eyes, tries to reach it with the hand, he will find himself feeling too much to the left. But when these trials have been repeated often enough, one may gradually learn to accommodate manual movement to the new impression. If, when this stage is reached, one removes the spectacles, and tries, as before, with closed eyes, to reach an object, his hand will now wander too much to the right. Further, if, when the right hand has learnt to reach an object by help of the new visual signs, the left hand be tried, the eyes being again closed, the observer will find himself able to reach the object just as easily and certainly as with the right. This appears to show that the eye, thus instructed, can now *see* the new direction in exactly the same sense in which it used to see the old one, namely by means of a rapid inference to extra-visual experiences. If every separate retinal element were qualified from the beginning to perceive one, and only one, line of direction, one cannot understand how these new perceptions could be rendered so complete and instantaneous.

Another fact, which throws much light on the acquired nature of the eye's perception of direction has been established by Hering. If, after both eyes have looked at a very distant object, the axes being parallel, the right eye be closed, and the other then accommodated for a nearer point lying in its previous line of vision, this new object will not appear in the same direction but shifted to the left. Yet the open eye has obviously remained fixed in the same direction, and it is only the closed eye that has altered its direction, according to the instinctive tendency of the eyes to converge in looking at a near object. It follows from this observation that the position of the closed eye helps to control a single eye's sense of direction. Hering and Helmholtz both represent this fact by the supposition

of an imaginary eye placed midway between the two eyes. Each of our real eyes, they say, sees objects in the direction of the axis of such a cyclopean eye when turned to the particular object viewed. This estimation of the direction of all nearer objects from a point midway between the two eyes, accords, as Helmholtz says, with the supposition, otherwise rendered probable, that direction is not an intuitive perception of the eye, but an inference from the position of both eyes in relation to one another, the real thing inferred being the particular mode of movement which the hand would have to make if setting out from the median plane of the body, or which the body itself would have to make, in order to come into contact with the given object.

It is to be remarked that these experiments have an important bearing on the more intricate question whether the eye at rest has any immediate knowledge of lateral extension, and of the dimensions of objects conceived as plane surfaces. On a hasty view of the matter it might seem self-evident that since the retina is itself extended, any impression on its nervous elements will contain immediate information of these spatial properties. Yet all the facts recently observed appear to favour the view that the eye's perception of extension is as much derived as its knowledge of distance. All that is required in order to explain the phenomena of optics is to attribute a different qualitative sensibility of some kind or another to the individual fibres of the retina, by virtue of which the impression of one fibre will never be confounded with that of another, and will, moreover, always be recognised as like previous impressions of the same fibre. What this difference of local sign (*Localzeichen*) really is, we cannot, in the nature of the case, hope to discover, since, *ex hypothesi*, long before the mind is able to inquire into its character, it is buried deep under associations derived from the eye itself and from the other organs. Yet that it exists, and that it is of a very precise nature must be assumed in order to account for the nice discriminations and recognitions of the tutored eye. For instance, it is proved that a comparison of two linear magnitudes is only exact when the lines are so situated that the eye, moving according to the laws of rotation already referred to, is able to receive the image of the second line superposed, so to speak, on exactly the same series of retinal elements as that occupied by the first. This shows pretty clearly that the sense of duration accompanying muscular movement is a much less exact criterion than the distinctive local sensibility of the separate nerve fibres. Yet the fact that this passive mode of sens-

ibility can thus far outstrip in delicacy the motor appreciation, is perfectly compatible with the supposition that the full interpretation of spatial relations, even in these fine forms, is motor and active. For even if we have no actual experience of such fine motor differences, we are able to imagine them more or less clearly, and the continual enlargement of the bounds of discriminative vision by improved optical instruments, supplies us with a real basis for such imagination.

It would require far too much space to enumerate even the chief optical discoveries which support the derivative theory of visible extension. Professor Helmholtz has done eminent service in bringing them into a just prominence and showing their bearings on the rival theories.* The phenomena of single and double vision, as the most recent and exact observers describe them, appear to add vastly to the probability of the derivative hypothesis. An exact study of the range and limits of single vision, as they are set forth by Helmholtz, shows the enormous difficulties attaching to the supposition that there exist in the two retinas certain "identical" points having, *ab initio*, one and the same feeling of extension. Indeed this assumption is, according to Helmholtz, directly contradicted by some of the newest discoveries in stereoscopic vision. On the other hand, these same phenomena appear to receive an easy and satisfactory explanation from the empirical or derivative hypothesis. Thus, for example, the precise situation of the corresponding points of the two retinas, the retinal margin within which an impression must fall in order to coalesce with that of a given point in the other retina, and the optical conditions in the perception of relief are fully accounted for on this theory.†

How the Intuitivist proposes to deal with the host of well established illusions of the senses, one is at a loss to understand. Yet this is certainly his most urgent business. On the supposition that in every perception the unacquired element is a very limited quantity, and that much of what seems to us intuitive is the

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* *Physiologische Optik:* Dritter Abschnitt. § 33: *Kritik der Theorien.*

† Nevertheless, the complexity of the question is sufficiently shown by the fact that Mr. Monck has quite lately, in his ingenious yet slightly hasty essay, *Space and Vision*, recast the intuitive theory, while Dr. Stumpf, in much fuller possession of recent observations, distinctly opposes, in the work already alluded to, Helmholtz's empirical interpretations of the facts. At the same time this able critic clearly recognises the wide range of empirical influence on our visual judgments.

product of past experience, there is nothing mysterious in these self-deceptions. All that is required, on this theory, to produce such an error, is to arrange artificially a set of external conditions which will yield the modicum of sensation apart from those empirical adjuncts which customarily attend it and are inseparably associated with it. And this is precisely the device which most of these experiments just considered aim at accomplishing. On the other hand, if we are to accept the hypothesis of space-intuitions, we may well ask, what is the meaning of all these signal failures of the intuitive faculty when left to itself and no longer aided by the gleanings of past experience. A single instance of error is sufficient to destroy the pleasant notion of an infallible consciousness; and if the phenomena of external perception continue to be referred to this august faculty, one cannot see how its unimpugned veracity is to afford any longer that repose of confidence which has so often been ascribed to it.

In conclusion it may not be amiss to remind the reader that no number of such experiments as those here described can at all affect the question of the existence of an independent material world. Physiologists who experiment with an individual's sensations by means of external stimuli, simply assume the antithesis and connection of the external and internal—which indeed nobody questions. They set themselves not to inquire into the final significance of this duality, but simply to determine its various aspects and to formulate its laws. Thus, for example, the assumption underlying Fechner's experiments, that there is something constant and uniform for all minds, as contrasted with the variable impression of the particular individual, or particular organic condition, is quite as susceptible of interpretation on the Idealist's theory as on the Realist's. For this constant is conceivable, either as something quite apart from mind, or as the similar and invariable aspect of sensation itself. So again, when it is said by Helmholtz, that our sensations are signs which are apt to be disregarded when they do not indicate objective facts, the statement may be reconciled equally well with either of the rival theories. For it is possible to regard these objective facts either as independent existences, or as the well-assured order of our conscious experiences, the permanent arrangements which our sensations and actions exhibit, and by virtue of which we are able to avert impending evil and reach onward to some increase of our well-being.

# BELIEF:
# ITS VARIETIES AND ITS CONDITIONS.

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One often hears of the boldness of Science in the field of external nature—how persistently she continues to seize and to reduce to law its manifold mysteries. And one must be prepared to hear, for many a day yet, the impotent cry of men who see disappearing their dearest traditions concerning the situation and destiny of their race in the universe. But if this bold explorer raises alarm by her swift progress in the outer world, how far greater the consternation we may expect her to create when she penetrates the hallowed precincts of the mind. If a harmonious uniformity even in the world of matter must shape itself to timid minds as dire necessity, one may well be prepared for zealous protest against its transference to their own free domain of consciousness. Yet the new *dea victrix* will never pause at call of timid heart. She has already made sure her footing in this untried land, and her ardent worshippers even now see the hour approaching when another fair temple will record the completion of her latest conquest.

It is perhaps scarcely uncharitable to assert that much of the outcry against psychological analysis proceeds from a vague suspicion that to discover the roots of our thoughts may be to perceive their unsoundness. Most people with any pretension to culture have reflected sufficiently to perceive how frequently ideas and sentiments grow up without any rational basis. And they can hardly fail to see that a full development of mental science will throw a curious light into many a hidden nook and crevice of consciousness. The first impulse of a stouter mind in view of this timidity is to cry *mundus vult decipi; ergo decipiatur.* But this temper is instantly checked, apart from considerations of a higher benevolence, by the reflection that any permanent prevention of enlightenment in this direction is beyond our powers. However much we may wish, we cannot long blind ourselves before the advancing light of day. People must soon come to

see how they acquire their prejudices as well as their cognitions; and one is only seeking to accelerate a natural movement when he helps to promulgate the luminous results which this branch of positive science has already reached.

The last stronghold which traditional sentiment has to defend against the assaults of natural explanation, appears to be human belief. It seems plain enough why a scientific treatment of this phenomenon should awaken the strongest mode of resistance of that conservative force. To attempt any rational account of the phenomena of belief is, to the common mind, to threaten to disturb the foundations of some of the most sacred of human interests. Everybody perceives that belief, say in a given religious truth, is not a universal, invariable instinct; and even cultured minds may be conscious that they are daily influenced by persuasions for which they could give no logical justification. This fact, however, does not much disturb people so long as they are not compelled to think about it; but when psychology proposes to open up the secret processes of the mind, and to trace step by step the growth of their prevailing creeds, they are apt to resent the proposal as an unnecessary rupture of their mental quietude.

This seems to be the somewhat painful impression which recent inquiries into the first germinations of belief are producing in many intelligent minds. The causes which have operated in throwing this study more particularly on the hands of the present and proximate generations are worthy of being noticed. On the one hand the great stimulus given to the study of human evolution, more especially to inquiries into the history of primitive man, his ideas and habits, has served to bring prominently into view the action of circumstances in modifying human belief, while it has exhibited among the most unlike varieties of race the prevalence of certain believing tendencies or instincts. On the other side, psychological analysis has been carried forward to a point of greater exactness. In this manner subjective reflection, assisted and corrected, as it ever must be, by wide historical information, has been attracted to the phenomenon of belief as a distinct and urgent problem in the science of mind. That even after this problem had been recognised its answer did not readily appear, seems explicable by the particular intricacy of the subject. Belief, however simple a thing it appears at first sight, is really a highly composite state of mind, or at least involves the presence of numerous other forms of

consciousness. Thus, to give but one example, it is easily seen that every belief implies an idea, and that the laws of the one must somehow or other be influenced by the laws of the other. Consequently the science of ideas, their formation, and the order of their recurrence, has to precede the science of belief. Agreeably to this, we find that the question of the precise nature and laws of belief, though it has for some while received special attention from British psychologists, still remains to a considerable degree an open one.

According to the old methods of psychology, by which the mind was regarded as a group of certain popularly distinguished faculties or powers, the subject of belief was easily overlooked. The various manifestations of confidence, such as intuition, memory, inference, were sharply separated by the writers of that class as having nothing in common. On the other hand, the opposite school of thinkers, who were a little too eager to resolve all mental states into modes of one fundamental process, the operation of association, readily overlooked the cardinal psychological difference between simply conceiving something, and believing in it as an actuality. Among writers of this school, Hume seems to have perceived in belief something more than the mere operation of ideas. He speaks frequently of this phenomenon as a *sentiment*, and he appears to have regarded it as an ultimate fact, though governed by the conditions of association and habit.*

Since the subject has been brought into prominent notice, two distinct inquiries have presented themselves. First of all, it has been asked whether belief is an elementary or a derivative state of mind; that is, whether, like our ideas of extension or moral rightness, it can be traced back to the union of certain simpler states of mind, or whether it is as much a primitive unanalysable state of consciousness as the sensation of blue or the pain of a bodily hurt. Secondly, the question has been raised more or less distinctly whether, supposing the phenomenon to be indivisible and unique, it does not always follow other mental states as its conditions, and what number of pre-existing phenomena must be reckoned among these conditions. To make the latter inquiry plain, recourse may again be had to the analogy of other mental phenomena. A sensation, for instance, is treated by the psychologist as an ultimate

* "The difference between fiction and belief lies in some sentiment or feeling which is annexed to the latter, and not to the former."—*An Inquiry Concerning the Human Understanding*, sect. v., part ii.

datum, the causes of which are for him only a secondary study. Although every sensation follows certain physiological processes, within the realm of mind proper it forms the first link in the chain of explanation. On the other hand, an idea is not such an ultimate datum, but is known to have as its conditions a previous sensation and a medium of reproduction. The question, then, may be put thus: Does belief, as to its origin, resemble a sensation or an idea?

With respect to the first point, an attempt was made by James Mill, in his celebrated *Analysis*, to resolve all cases of belief into mere forms of inseparable association. When we believe in the past or future conjunction of two events, the process, he thinks, is nothing but the operation of an irresistible attraction between the corresponding ideas, so that we cannot think of the one event except as accompanied by the other. This view ignores, as was just now hinted, the difference between imagination and belief—ideas which point to some objective fact beyond themselves, and those which have no such reference; and on this ground Mr. J. S. Mill deems it to be unsatisfactory. If belief were nothing but a transformation of inseparably associated ideas, then, as Mr. Mill says, every case of such association would develop belief. But as a matter of fact we are frequently compelled, as in the case of the apparent motion of the sun, to conceive events in one way and to believe them in another.

Another and far more elaborate attempt to resolve belief into simpler psychological phenomena has since been made by Professor Bain. It is one of the great merits of this eminent psychologist that he has brought into a juster prominence the active side of the human mind. By the addition of the phenomena of spontaneous activity and muscular sensibility to what may in contrast be called our passive sensations, he has been able to place in a perfectly new light such psychological problems as the origin of our ideas of space and matter, and the growth of volition. To this same region of consciousness Mr. Bain refers the peculiar state of mind which is termed belief. His theory is a little complicated, and only a few essential points can be presented here. We all admit, says this writer, that the proper result, and the infallible test of belief are to be found in a man's actions. Unless a professed creed is seen to affect the course of the individual's conduct, we doubt his sincerity; while promptness and unwavering persistence in action are always accepted as a proof of intensity of conviction. Now, Mr. Bain adds, not only is readiness to act the sure outcome and test of belief, but it

is the essence of the believing state itself. Through the fact of our natural spontaneity we are ever ready, previous to experience, to act somehow. This state of mind may, so far as I understand the author, be termed the force of belief in the abstract, viewed, as one views material force in mechanics, without any reference to direction or other concrete circumstances. In order that it may become the concrete state of mind which we know as confidence, some suggestion of ideas consequent on a measure of experience, however limited, is necessary. Yet this atom of experience, though needed to give an object or a definite direction to belief, does not constitute or even, at first at least, determine its force. The first expectations of young children, following, it may be, a single accidental conjunction of events, cannot be said to owe their intensity to the amount of experience. The force of those beliefs was a pre-existing force, the readiness "to act and follow out every opening"; it did not spring from the experience, but was simply turned by it into one particular channel.

This affiliation of belief to the active side of human nature appears to me to involve a real progress towards the solution of the problem. So far as Mr. Bain brings to light the operation of natural activity as an important *condition* of belief, his position may be regarded as above all attack. But one is unable to see how belief is in any way *resolvable* into activity. The reader will at once perceive that this question is merely one of the difference already explained between analysing a mental state into other and simpler states, and assigning to it certain pre-existent states as its conditions. The point is a difficult one, and I offer my own view of it, diverging slightly, as it does, from that of so profound a psychologist, with a considerable measure of hesitation.

First of all then, attention may be called to the generic difference which subjective reflection discovers between the two states of mind —activity, or proneness to action, and belief. Mr. Bain appears to find in the former all the essential characteristics of the latter; but one suspects that to most persons they are fundamentally distinct. And just as they are *primâ facie* heterogeneous states of mind, so it appears impossible to derive one from the other according to any known mental laws. At first sight indeed it may seem that, given an original spontaneous force predisposing to action, *plus* a conjunction of ideas offering a channel for action, we are able *à priori* to infer the existence of belief. But in truth this is only in appearance. All that we could so infer, as a necessary consequence of

the data, is *action*, in a given direction, not *belief*.* From a strong inclination to act somehow, and the presentation of a certain course of action (by a process of association), one sees that action must follow. But no one could ever have predicted from these conditions that, along with this turning of the stream of active energy into a particular channel, there would present itself the new and unique phenomenon, expectation or assurance.

Just as we do not find belief involved in activity, so we can conceive, and may find belief without any accompanying activity. No doubt, in the structure of our mental constitution, belief is most intimately connected with action; yet there is surely no contradiction in conceiving of a mind, perfectly destitute of action, participating in this feeling. We can readily represent to ourselves the case of a helpless paralytic, carefully tended by nurses, who might come to anticipate periodic recurrences of his comforts, and feel at the signs of their approach all that elation of mind which is just as much an effect of confidence as action itself. Mr. Bain admits that in mature life our beliefs become detached from this primitive root of activity, so that we hold to doctrines without any distinct purpose of acting upon them. But so far as I can judge, this non-active mode of belief it just as elementary as the other, and frequently appears simultaneously with it. The common illustration of this form of belief is found in the first anticipations of pain. In the trite allusion to the child that has once burnt its finger, we have a case of strong belief produced in direct opposition to the force of spontaneous activity. Mr. Bain distinctly says that these first experiences of pain are a direct check to spontaneity. In children of unrobust constitution, a single instance of painful check is enough to prostrate action for some considerable period, the mind being now under the sway of what we may in distinction call a passive belief, the confidence in an impending evil. But if activity be the one great source of belief, how is it possible to account for this confidence, springing up just as certainly and persisting just as forcibly as the other, when spontaneity is at zero? We know that in many of these cases when spontaneity is high, the painful colli-

* It is worthy of remark that Mr. Bain does employ the elementary facts of our active constitution, together with association, to derive the phenomena of volition; and in this case, I think, he has succeeded most completely in showing the will to be a secondary and composite state of mind, inferrible from more rudimentary states. A comparison of this analysis with that of belief will serve, perhaps, to make this point clearer.

sion produces merely a subsequent doubt; but this doubt is only a mean state between two extremes of belief, one of which appears when the tide of active energy is at its lowest. We know also that a repetition of such painful experiences in a vigorous mind is the occasion of a new form of proper active belief, namely, a confidence in our power of avoiding the evil. But this is in most cases a later growth, requiring lapse of time and frequent experiments in action, and does not alter the fact of an intermediate state of belief which we call painful anticipation; unless indeed one were to refuse to apply the name belief to this mode of ideally grasping a coming experience.

If it is possible to find in certain forms of anticipation a type of belief which does not spring from activity, we may *à fortiori* expect to discover its traces in memory. This would seem, surely, to be a distinct mode of confidence not resolvable into any anticipations, definite or imaginary. When with a present idea I have an assurance of a past reality, the phenomenon strikes one as unique, and inexplicable by any reference to action. Yet Mr. Bain thinks our belief in a past sensation is still resolvable into a readiness to act upon it; or, where there is no prospect of action, into a state of feeling similar to that which we cherish towards impressions which we are ready to act on. The last case is thus illustrated: "I believe that I yesterday ran up against a wall to keep out of the way of a carriage. I have no disposition to do anything in consequence of that conviction; yet I call it a conviction, and not a mere notion, because I am affected by it in the same way as I am by another recollection that I do act upon. I feel that if there were any likelihood of being jammed up in that spot again, I should not go that way if I could help it." * So that here, too, there is "still a reference to action more or less remote." But my contention is, that belief in a past fact is instantaneous, and precedes by a perceptible interval of time any such reflection of present or future possibility. This may be seen, too, in the fact that belief attaches itself quite as powerfully to recollections which by their nature admit of no future repetitions, as it does to those which are susceptible of confirmation by a new experience. I believe, for example, quite as firmly in the death of a particular relative as in one of the many recurring facts of daily life.†

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* *Emotions and Will*, p. 554.

† Since this essay was put into type I have learnt, through the kindness of Professor Bain himself, that he has modified his statement of the relation be-

It seems, then, reasonable to say that belief, though commonly bearing the closest relation to action, is not reducible to any form of activity, since it is possible to conceive perfectly well the play of the various active impulses unaccompanied by belief, and since, moreover, belief often appears in which no effect of activity is perceptible. How then, it will be asked, is action related to belief? If activity is not the raw material of belief, nor its invariable condition, what is the connection between the two? This question conducts us to the solution of the general problem of the derivation and causation of belief.

The preceding argument has aimed at showing that belief cannot be resolved into inseparability of association, or into the primitive activity of the system; and this may suffice for establishing the distinct and unique character of the phenomenon. In support of this conclusion, I am glad to be able to appeal to so great a psychological authority as Mr. J. S. Mill. After examining the phenomena of belief, more especially in their relation to inseparable association, he finds the difference between a mere combination of ideas, and one which recalls to us a combination of sensations as actually experienced, to be something which "always returns on our hands as an ultimate postulate." *

The great problem of belief is thus seen to be, not to resolve the phenomenon into more primitive modes of mental activity, but to determine the conditions of its varying directions and intensities. What these are, and how they act, we will now consider. And in doing so, it will be possible, one thinks, to assign the kind and measure of influence due to our active impulses.

Mr. Bain, whose authority in favour of so large a part of the theory now advocated I am naturally glad to be able to appeal to, finds the modifying influences of belief, those which in his view supplement and interfere with the force of primitive activity, to be the laws of association, and the control exercised by the feelings. The

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tween action and belief in a note appended to the last edition of his *Compendium of Mental Science*. He there tells us that he no longer regards belief as the outgrowth of spontaneous activity but as "an incident of our intellectual nature, although dependent as to its energy upon our active and emotional tendencies." I am gratified to find that there is far less difference between Mr. Bain's theory and my own than I had supposed. I regret having overlooked this reannouncement of Mr. Bain's views; but I have decided to leave the argument in the text as it is, with the hope that it may contribute to a precise appreciation of the relation of action to belief.

* Mill's *Analysis*, vol. i. Editor's Note, p. 416, *et seq.*

second of these forces has been treated by him with a masterly completeness, and my task in reference to it will be simply to follow out his principles into some of their numerous ramifications. The effects of association are much more obvious, and offer less room for divergence of opinion, as indeed is shown by the tendency of writers to refer to this process all the effects of belief. Yet even here, one may venture to think, something has still to be done towards accounting for some of the more complicated intellectual developments which many of the higher forms of conviction, such as philosophical intuition, appear to involve. The operation of spontaneous activity in nourishing belief, as distinguished from its effect on voluntary action, I shall endeavour to connect with the laws of feeling or emotional excitement in general. Finally, reference will be made to the question, how far the will is able to check or otherwise control the impulses of our believing nature. Thus one has to examine the development of the Intellectual, the Emotional, and the Volitional conditions of belief.

The intellect, it is clear, cannot come into play until experience has supplied some materials. To think of, to remember, to imagine something, must include, among other things, an impression or actual sensation, which, in leaving behind in a modification of brain-structure a corresponding idea, has furnished the raw material of intellectual industry. Belief has been commonly regarded as an intellectual function, and certainly it appears to contain in every instance some intellectual element. To believe, means to believe in something; and in order to this, a definite idea of the thing believed in is necessary. Hence it appears evident, that a universal antecedent of belief is some rudimentary experience, and more especially some sensation. Such an experience offers an opening, a definite channel, through which the believing impulse may flow; and it seems futile to look for any traces of belief prior to this experience.*

* According to Professor Bain, the workings of belief may be discerned before there has been time for experience to supply the mind with any definite ideas. Thus he thinks that when a child's mind is elated by some new pleasure "the situation contains all that is meant by full and unbounded confidence that the future and distant will be exactly what the present is" (Note to Mill's *Analysis* p. 396). Similarly, he imagines that in a state of actual thirst the mind would be disposed to believe that it always was and always would be thirsty. But even in these hypothetical instances—which appear to me to involve ideas of the past and future, and therefore numerous experiences—we may still see the direct action of experience. For this tendency to fill up the future and the past with materials supplied by the present is the simplest conceivable mode of inference from experience.

Logicians customarily assume that all objects of belief are susceptible of propositional form.* This is, no doubt, true of all our mature and definite beliefs. Even when a person says, "I believe in God," he implicitly affirms, as Mr. Bain has shown, that God exists, or that God created the universe. Yet, while this assumption may be justified in the case of the logician, the psychologist has to look back for germs of belief which precede all affirmation and negation.

I venture to submit, that the primitive germ of all belief, the earliest discoverable condition that precedes in its influence that of action, is to be found in the transition from a sensation to an idea. After repeated experiences of a particular sensation, say that of a bright light, the child's mind retains an image of the impression, which, though resembling it and recalling it, is felt to be different from it in certain respects. Wherein consists that difference between an idea and a sensation which precedes all distinct knowledge of the outer world, it is not, perhaps, needful to determine here. It may suffice to say, after Mr. Mill, that we should never be able to attach distinct associations to the one or the other, and so contrast the outer and material world with the inner and spiritual, unless there existed, *ab initio*, some distinguishable peculiarities in the two experiences. One point of difference, however, is certainly discoverable: namely, the unequal intensities of the two experiences, the element of feeling or emotional excitement in a sensation being clearly greater than that of the corresponding idea. This fact is important as serving to explain why the young mind may be supposed to reflect so distinctly on the absent sensation. An idea of a flame, to return to our illustration, would lead the infant consciousness to dwell on the sensation of which it seems to tell, just because that imagined experience is felt at the moment to be deeper and intenser than the present one. And this would take place before any associations of objectivity with the sensation had been arrived at. Nor need any suggestions of time accompany this revival of a past impression. When the infant mind, in its half dream-like thought, had not yet learnt to mark off the present and the past, it might, not improbably, even then have vaguely felt this strange likeness in unlikeness between the faint fugitive idea, and the intense absorbing sensation. Now, in this curious mental event, the partial

* It is possible, indeed, that progressing philology may show that among many peoples, confidence in a reality is susceptible of expression in other than our familiar affirmative forms of language.

reproduction of a past sensation by the medium of a present idea felt to be like it, one seems to find the origin of the oldest and most simple form of belief. For as soon as this experience becomes possible, and the present idea and the absent sensation are distinguished, it seems certain that the mind would fall into the attitude of belief with respect to the absent sensation. In other words, if the infant could fully describe to us its state of mind, it might not improbably do so by saying, "There is something in my mind that carries thought away to another thing brighter and better than itself, which thing is not exactly in my mind just now, but yet seems near and ready to enter it." In the inexplicable fact that a present idea carries on its face the mark of its origin, and reminds of the sensation which preceded it, we appear to have the last accessible stage in the history of belief. Belief and memory, in the sense of the idea pointing to the absent sensation, appear to be mutually involved in this analysable mental process, neither being conceivable apart from the other. We may say, if we like, that belief arises from the inherent tendency of the idea to approximate in character and intensity to the sensation of which it is the offspring. It is the only equivalent for a present experience which an idea of the experienced feeling seems fitted to bring with it.

Let us now pass to consider a few of the most striking developments of this simple process. Throughout the various forms human confidence successively assumes, the presence of this instinctive impulse to believe in something suggested by a present idea may be traced. And the most precise convictions of the logician are really modifications of this rudimentary mental process.

At first, then, the distinction between idea and reality being but imperfectly recognised, one may expect to find the belief which attends an idea approximating to a present realization. At such a stage of mental development only very intense ideas, it may be presumed, will persist in consciousness. All fainter images will be too indistinct to arrest attention. And this intensity of the idea will naturally tend to assimilate it to an actual sensation. The most striking cases of this illusion are to be found, of course, in abnormal mental states, when vivid ideas are constantly mistaken for real impressions. Similarly, opiates have the effect of exalting consciousness so as to give apparently the force of an actual sensation to a mere thought. When a person in such an excited condition of the brain says, "I see a splendid light," "I hear enchanting music," we may observe the common point of departure of belief

and actual experience. The normal contrast between idea and sensation being obliterated, belief ceases, so far as its subject is concerned, to be belief, and becomes a present fruition.

A slightly higher stage of belief is reached when the idea, though intense, is not completely confounded with sensation, but by virtue of its great force assumes the form of a *near* reality. All the earlier beliefs of children and savage races illustrate this mode of belief. If one relates a wonderful phenomenon to a child, it will very likely exclaim: "I can almost see it myself," "I fancy I'm now looking at it." If its imagination be very active, one may notice in addition various signs of expectancy, as though it were looking for an immediate presentation of the reality. We here see ideas rendered very vivid by emotional associations, accompanied by belief in a near reality. If asked to define its anticipations more nearly, the child would probably fail to make itself intelligible. It appears to have no definite notion of when or how. There is an ideal activity awake, which is tending ever and again to pass into that perfect illusion of which mention was just now made. But the ideas being normal ones, though exceedingly vivid, are still distinguishable from sensations, and hence the state of mind is one of energetic anticipation which resembles, yet is not confounded with, the actual experience itself. This state of mind may perhaps be looked on as the simplest differentiation of a belief in a sensation from an actual experience of it. The proximity of this experience is not necessarily thought out in distinct terms of time or space. At the same time, since the state of mind is a constant striving, so to speak, to simulate the form of sensation, which is only checked by a recognition of the difference—the first manifestation of a restraining criticism on belief—the assurance of a near reality shows itself most prominently in immediate anticipation or the expectation of a swiftly coming fruition.

Illustrations of this simple form of belief may be found in abundance in the mental history of children and the least civilized races of mankind, and are not wanting even in the mature convictions of cultured men. The most effective way of raising an idea to a certain pitch of vividness is by the associative force of a present sensation. Most of us probably can easily remember instances in which we sought by concentrated thought to call up a clear image of an absent scene, as a home, a landscape, of which there was nothing in our immediate surroundings to remind us. But all our striving to construct a vivid picture was futile, till some actual impression,

whether the sound of a voice, or the sight of a face, brought it back with a startling brilliancy and force. Sometimes the present sensation calls up by contiguous association the idea of an impression joined to the former; and in these cases, if the past impression thus ideally revived was a highly striking one, the idea will be vivid, and attended with this immediate expectation. A young child manifests this eagerness of anticipation at the sound of water poured into its bath, and at the sight of its food; and many an older child cannot be induced to approach a spot where it experienced some severe pain. In these examples closeness of association raises the idea of some pleasure or pain with great force, and hence the belief is as little as possible removed from the consciousness of the present reality. This same intensity of belief may be seen among savage tribes. In the quaint doctrines of animism one may see how the experience of disaster or terror served to invest localities and material objects with a permanently haunted character. The uncultured man who attributes his loss of cattle or his bodily hurt to the proximity of a vengeful spirit, resident perhaps in some dark lowering rock, cannot approach the fatal spot without thrilling expectations of a like calamity.

A very curious example of this vivid anticipation brought about by the suggestive force of a connected impression is to be found in language. A word is nothing but a certain sound artificially connected with some particular object as a sign which man can voluntarily reproduce for the purposes of intercourse. Hence an uttered word, like any other present sensation, may call up the idea of a past associated impression with great intensity. To name to a highly imaginative child a beautiful object, a terrible phenomenon, a past holiday, or punishment, or indeed any highly impressive experience, is to raise an exciting anticipation of the reality. The present mention of a name serves, by a very simple mental law, to bring near to the present moment an absent reality. Many traces of this influence may be found in the beliefs of the uncultured, whether among ourselves or in the lower races of man. The quaint superstitions embodied in all forms of verbal charm—the belief that there resides a mysterious potency in the mere mention of painful and terrible facts, illustrated by the use of circuitous euphemisms—seem to owe some part of their vitality at least, to the disposition of the mind to make a present reality of any idea vividly suggested to it. In higher stages of culture we may see the same power of language in the temporary illusion of a reader buried in the thrilling

descriptions of history or romance. Who has not felt the abrupt cessation of such absorbing perusal to be like the waking from a strange vivid dream, in which, as by magic, a whole new world revealed itself in immediate vision? As a singular example of this variety of belief in cultured minds, I may cite the frequent confusion of sensation and inference in observing the outer world. It is now quite certain that we do not see the solidity or third dimension of an object in the same sense as we see colour or hear sound. Any one may prove this by looking through a stereoscope at a flat design, where he will be just as confident of seeing the solidity of tree or house as when looking at real objects, though in this case it is demonstrably absent. The phenomena of vision are a very curious study to one who wants to know how far this illusion of the senses can go.* Now this strong persuasion of present reality is simply a remarkable instance of belief in a near experience tending to pass into a feeling of its actual presence. A man's knowledge of solidity, as of distance in general, is derived from muscular experiences, and would never have been gained by the eye alone. Yet so powerfully are these experiences of movement and touch associated in his mind with certain visual signs, that the presence of the latter calls up an irresistible conviction of the immediate presence of the others also.

Sometimes it is a partial resemblance between the present and past impression which calls up the idea of a past sensation, and in this case too the belief may be of the same intense and immediate character. If the present impression precisely resembles the past, the mind will be naturally absorbed in the present, and there will be no room for such anticipation; but if the resemblance is only partial, consciousness may be turned, so to speak, towards the absent reality. In other words, the presence of an impression or object disposes the mind to believe in the nearness of its like. All of us, perhaps, have experienced a vague yet intense and unaccountable kind of expectation when a strange face, seen for an instant in a crowd, has called up another and familiar one. The image persists, and haunts the mind, and we continually detect ourselves looking for the reality, even though a moment's reflection is sufficient to show us the absurdity of the quest. The quaint fancies of children are often

* This side of sensation has been placed in new light by the researches of Helmholtz and other German inquirers. See the essay on recent German Experiments with Sensation.

traceable to this mental process. The confusion of strong resemblance with identity, which children often manifest to the perplexity of observers, seems nothing but this phenomenon in a slightly new shape. When in their tiny play they mimic scenes and persons, asserting that this puppet is so-and-so, this little sand structure a parlour or a mansion, it looks as though their minds so vividly imaged the realities they so oddly seek to imitate, as to believe for the moment in their actual presence.* So, too, in the curious development of savage animism, in which the slightest resemblance to human form in tree or rock or log was sufficient to invest it with a quasi-human spirit, does it not appear as if the powerful suggestion of a thing by the link of resemblance were sufficient to awaken a belief in its near existence?

Although this powerful revival of idea is commonly effected by a present sensation, it is no doubt referrible in some instances to a subjective origin. In the current of images that daily sweeps through consciousness, there emerges now and again some one which adheres, so to speak, to the mental banks, and gains vividness as it lingers in consciousness. We are unable to account for its presence, yet are aware that along with it is a distinct tendency to look for the corresponding reality. All the phenomena of mysterious presentiments, supernatural warnings, and vague forebodings might be shown to be examples of this tendency of an idea, if sufficiently vivid, to revert, so to speak, to its original sensational form.

Here then may be found, perhaps, the first intellectual conditions of belief, the simplest mental channel, which the strong inborn current of trust finds and follows out. In the instinctive transitions of mind from a recurring idea to the actual sensation typified by it, there seem to present themselves the first awkward yet necessary trials of human faith. We may now pass on to consider the transformation of this immature type of belief into higher and more precise varieties.

The first mode of a more definite belief shows itself in an immediate anticipation. As soon as an animal or young child can conceive that the believed reality will definitely follow some other experience present at the moment, its belief passes from the first crude stage just described into a more logical form, assurance of some connection between facts, or readiness to assert a proposition.

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* I have elsewhere sought to trace in this crude belief of play the earliest germs of artistic imitation. See the essay on Æsthetics.

A more advanced intellectual state allows the further differentiation of anticipation and memory, the projection of the suggested reality into some definite point of the future or of the past. It has been said by Mr. Mill that anticipation and memory are primitive forms of belief which it is vain to seek to render any simpler. Yet possibly, if our assumption respecting the first form of belief is correct, we may by means of it trace out the steps by which the two great poles of mature beliefs, the known and unknown, are fashioned and fixed.

Let us seek to imagine, then, the stage of mental development when ideas of sufficient vividness predispose the mind to grasp a present or an adjacent reality. With repeated and enlarged experience this rash faith is frequently rebuked. No reality presents itself answering to the ardent mental image. Take the case of a vivid revival of idea through resemblance. A young child has just feasted, we will suppose, on the luscious pulp of an orange. You present him with a brightly painted ball, and he begins to suck it in full belief of the sweetness awaiting him. His disappointment will act as a check to this random propensity, and help to confine belief to certain definite connections. Thus, the child will begin to examine the ball, to note the amount of its dissimilarity to an orange, and so to attach the belief in sweet taste to a more definite group of impressions: namely, the visible form and colour, and the tactile sensations of roughness, weight, temperature, etc., which make up a complete perception of the fruit. Henceforth his belief will be far more susceptible of strict interpretation as a definite anticipation of a consequent B, certified by the presence of an antecedent A. Confidence has now ceased to be absolute and immediate, and begins modestly to limit itself to certain definite contingencies, while the object of belief is thus removed, so to speak, to a definite distance from the believing mind.

Take another case. You may have nursed a young child while you sat before a piano and played. The effect of the tune was evidently elating. The attention was keen, there was pleasure in the scarce fashioned features, and the motor excitement which made it so difficult for you to hold it betrayed the mental exhilaration. You suddenly stopped, and noticed perhaps the confusion and disappointment in the young face. It looked wonderingly, as though puzzled at the unbidden cessation of so much joy; and ever and again seemed to be anticipating a renewal of the melody. What appears to happen in the growing consciousness during these

moments? The ideas of those sweet sounds persist, and fill up the mind. They naturally lead, as has been shown, to belief in a present reality. But this is found to be wanting, and confidence now passes into a new phase, the memory of something past. Here there is another mode of transition of the first germs of belief from vagueness to definiteness, from an unconditioned to a conditioned form, from immediate apprehension to a calm distant contemplation. As in the former case an impatient and delusive grasp of a present reality was tamed down to a quiet anticipation of a conditioned result, so here it is reduced to a contented assurance of a past reality.

But what conditions, it may be asked, determine the primitive vague type of belief to pass now into anticipation, now into memory? To answer this is far from easy, yet something may perhaps be done towards it by help of a theory of sensation recently propounded by M. Taine in his highly interesting work, *De l'Intelligence*. The hypothesis of this writer, though undoubtedly containing much that is purely fanciful, appears to come so near the truth of the matter now discussed as to deserve special consideration.

M. Taine conceives each of our sensations to be divisible into parts, of which the most important are the two extremities, the commencement and the termination. Each of these extremities must be supposed to cohere with the adjacent extremity of the preceding or succeeding sensation, just as the various adjacent parts of the same sensation cohere together. Thus the whole series of our sensations is made up of an indefinite number of molecular parts (having dimensions in time only) by the mutual cohesion of which all are fused into one. Now when any idea is suggested to the mind it is at first antagonistic to the actual sensation or other state of mind, of the moment. This antagonism, however, soon ceases, and its cessation is effected by means of the mechanism just described. The new idea ceases to clash with the present sensation when it enters into one form of this contact with it, that is to say, when either its anterior extremity touches the other's posterior, or its posterior extremity adjusts itself to the other's anterior. Which of these arrangements it will light on in any given case depends on the previous relation of the sensations. Thus, if the sensation B has commonly followed the sensation A, the idea of B will slide *in front of* the present sensation A, and appear as an expectation or prevision; or if B is the sensation of the moment, the idea of A will slide *behind* it, and present itself as a memory.

Such appears to be the substance of M. Taine's theory so far as it bears on our immediate problem.*

While deeming much of M. Taine's theory too subjective, and his phraseology too figurative; one may still hold that some of the considerations he suggests throw a real light on the mental process. It appears probable that psychologists, in analysing the mind into sensations and ideas, have been too apt to look at these as isolated phenomena, whereas in our actual experience they are closely combined. Of these combinations, the simplest, most universal, and most impressive, is that of antecedent and consequent. When, for instance, I experience in succession the two sensations, the visual impression of a yellow surface of a particular kind, and the peculiar taste of an orange, it is not a complete account of this fragment of my mental history to enumerate these sensations; for, in addition to the single feelings, I had the peculiar state of consciousness known as a transition from one sensation to another, and consequently, when I think of it afterwards, the idea in my mind is of the first impression of sight giving place to the second impression of taste. When the consecutive sensations are strongly contrasted these transitions are more impressive and more likely to persist in memory. For instance, when the impression a child receives from the visible preparation of its food gives place to the new group of feelings excited by eating, the passage is a very impressive element of consciousness, and when the first sensations are again excited, they tend to awaken the idea of this transition along with them. And here one seems to discern the reason of an idea's assuming now the form of an expectation, now that of a recollection. In the former case the idea is called up, not as a detached mental phenomenon, but as the second term of a relation, the mental state into which the actual one strives, so to speak, to resolve itself. In other words, to borrow M. Taine's figure, the idea seems to place itself in front of the present ruling sensation, and thus we have shadowed forth in its most primitive form the idea of futurity. When, on the other hand, the idea presents itself as a recollection, it is because it is accompanied by a revived feeling of its transition to the present dominant sensation. Thus, to refer to an example of Mr. Bain's, the child whose thirst] has just been allayed has, with the recurring idea of the thirst and as its close and inseparable adjunct, the

* See *De l'Intelligence*, tome second, livre iii., sections vii. and ix. The work has recently been translated by Mr. T. D. Haye.

renewed sense of its displacement by the present feeling of satisfaction. Similarly, in the example selected above, the idea of the musical tones carried along with it a distinct ideal shadow of the painful cessation, the transition from a full sensation of tone to dreary silence. In other words, the idea in these cases is of something connected in the peculiar relation of priority with the actual experience of the moment.

Setting out with the supposition that every idea involves a mental impulse to realize the corresponding sensation, one may thus dimly conceive how it is that this impulse ends, according to varying circumstances, either in a recollection of a past, or in an anticipation of a coming experience. In either case the primitive craving for a present reality receives a check. The mind has to satisfy itself with an assurance of something more or less remote. When the idea is called up by association as an accompaniment of a present sensation, it will naturally take, as we have seen, the form of an expectation. When, on the other hand, the idea is due to the mere momentum of a recent sensation, it will gradually come to be recognised as standing for a past reality.

It has been assumed here that the tendency of ideal revival is at first in the forward direction only: that is, that any idea tends to call up its consequent, though not necessarily its antecedent. Hence, perhaps, one of the reasons why anticipation is at first so much in advance of memory. The fact that the idea of any past impression at once gives place to those of succeeding experiences, easily prevents its becoming a distinct matter of consciousness. How far the power of an idea to call up its predecessor is an integral part of the law of contiguous association may be open to doubt. We are all familiar with cases of contiguous impressions which recall one another only in the forward direction, as, for example, in repeating the alphabet; and it might be urged with some show of reason that ideas are far more powerfully called up by their antecedents than by their consequents, and that all our retrogressive revivals of impressions are largely brought about by means of added and artificial associations, especially those of language, acting in a forward direction. But leaving this an open question, one may safely say that it is only after a certain degree of intellectual development that the mind is able to move backwards to a point of experience behind the present. The common division of time into certain equal segments and equidistant points is a great auxiliary to this process. After a considerable number of experiences the child comes to know that every

present impression has some antecedent, this another antecedent, and so on. And it is only when the mind is capable of going back over a few definite fixed points to the idea of some distant experience, and returning by the normal route of actual experience to the present, that a proper and complete conception of a past fact is formed.*

The steps by which belief may be supposed to pass into this higher intellectual form, are very similar to those by which we have already seen it advance. It is the repeated disappointment of expectation that drives back the believing mind to a distinct apprehension of a past experience. Take the case of a young child suffering from one of these acute shocks of disappointment. The arrival of a certain person has been accompanied in one or two instances by the gift of sweets. When the visitor next comes he has forgotten his customary generosity, and the child's mind passes from the tension of full hope to the painful experience of disappointed trust. While it is thus in suspense, the intellectual forces are in full play, through the general tone of mental excitement, and by rapid flights and reflights from the present to the past —brought out now in such bold contrast with the present—it becomes acutely aware of the independent existence of the past. In the painful conflict of mind here experienced one may see how a belief in past experience becomes sharply differentiated; and in this conviction, added to a feeling of the falsity of the present assurance, may be traced a rudimentary form of that mental condition which underlies later judgments. Henceforth the child will begin to attend distinctly to the grounds of each new expectation, to recall deliberately, and to make sure of, the previous experiences, and in this manner to use memory as the starting-point of anticipation, the known as the clue to the unknown.

Fully to trace out the development of all our beliefs as regulated by experience and association, would require far greater space than a single essay offers; and one may well pass over these details, as they have been so ably expounded by previous writers. Suffice it to say that the principal influence at work in this progress of belief, is the development of a finer capacity of discrimination and comparison in respect to repeated and often contradictory experiences. By these means the mind comes not only to attend more

* For a very exhaustive analysis of the mental processes in the acquisition of ideas of the past see the work of James Mill.

carefully to the past as a logical basis of its inferences, but to compare and to unite the various elements of this past under exacter notions of permanent sequences, as distinguished from accidental and ill-observed conjunctions. In this way the more subtle and deep-lying conditions of expectation reveal themselves to the mind, and human beliefs tend to approximate to logical conclusions. In like manner, too, the various modes of connection between phenomena come to be recognised, and the mind acquires those notions of co-existence, sequence, and permanent existence which it is the province of logic to define and arrange. Through like processes of repeated experience and sharpened intellectual action, the mind comes to look for antecedents to impressions lying outside its own series of sensations, to conceive a possible impression as the originating cause of a present one, and so to arrive at that vast stream of objective events which flows on beyond, and independently of, the actual series of feelings making up its own individual life. How language assists us in marking off the past from the future, the known from the unknown, the actual from the possible, and in giving a new persistence, a due exactness, and so a universal applicability, to the products of experience as contained in memory—all this has been so fully demonstrated by Mr. Mill in connection with logical evidence, that I may simply refer the reader to his great work on that subject.

The other grand influence in transforming our first beliefs into exact conclusions of reason is the development of the conceptive faculty or imagination. The effects of this extend, indeed, through the whole region of belief. Thus, instead of the few immediate anticipations of a child reaching scarce beyond the morrow, we find in the mature mind expectations reaching forward to months and to years. Similarly, with respect to memory. Not only so, but the mind learns to believe in what never was and never will be its real experience. Thus, it projects itself in fancy to the remote fields of space, and feels a strong persuasion of what it would at this moment witness were it actually transported thither. The boy wakes up in the morning, and finds the garden and trees shrouded in snow, and he has a lively conviction that if he had watched through the night he would have seen the dazzling flakes softly and silently falling. The historian's imagination passes in swift rush to the age of Athenian glory, and he firmly realizes to himself the things he would have seen and heard if he had trodden the pavement of the busy agora or leisurely strolled through the elegant gardens of the academia.

Finally, the scientific mind gathers up all such credible conceptions, branching out in all directions of space and time, and formulates them in general laws. Every one of these universal propositions stands for an indefinite number of anticipations. Of these some are simple and positive: that is, point to events we really count upon witnessing for ourselves. The greater number, however, are complex and conditional: that is, rest on a supposition of certain experiences which we either regard as probable at some future day, or can imagine ourselves as undergoing or having undergone at any conceivable point of time.* The number of our own actual experiences of the given fact may be small enough; and yet we do not hesitate to cast ourselves, in thought, at least, if not in action, on this indefinitely wide range of conceivable experiences. We have now ceased to draw our crude childish inferences of a world revolving about us like some painted cylinder, with all its different pictures occurring in exactly the same order, and have expanded our field of vision to a world with no clearly marked limits in space or time, a vast painted canvas for ever moving onwards before the eye, in which at first sight nothing but most intricate and unlike groupings of coloured forms are discoverable, subtly woven lines that intersect in ever fresh arabesque forms, but in which the measuring eye of the geometer discovers unfailing uniformities of relation, resolving every picturesque complexity into a modified combination of a few elementary lines and surfaces.†

In this way, then, it seems possible to connect the definite beliefs of maturity with those wild impulses to realize an idea as actual sensation which I have regarded as the germinal form of all belief. In a normal mind under proper discipline there is a growing disposition to abandon the uncontrolled dream-beliefs of the child and savage, and to refer all ideas as they recur to the mind to some object distinctly recognised as removed from present consciousness whether in the present, past, or future. With logical training, too, there grows up a habit of deriving anticipation from past experience, whether it be the individual's own or that of others made known to

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* In an admirable analysis of all belief into memory and expectation, Mr. Mill traces out the various modes of these expectations. Mill's *Analysis*, Editor's Note, p. 413, *et seq.*

† Belief has been spoken of in the text as though it has to do with sensations or objective experiences only. At the same time, it is clear that a similar line of remark would throw light on our belief in distant emotions or other subjective experiences, whether past or future.

him. This shows itself in a desire to refer every idea or connection of ideas in proposition to some definite points of the past, and to make this past the basis of all forecastings of the future. Now so far as our ideas and their connections and sequences may be accepted as exact representatives of past facts, this part of our mental mechanism may be looked on, perhaps, as the most valuable condition of all true knowledge and safe action. But this is by no means universally the case. For our ideas often deviate in their arrangement from the order of our experiences, while they are continually liable to processes of decay, amalgamation, and transformation which render them very poor equivalents of the impressions from which they sprang. To this it must be added that the process of assigning its origin to every idea is at best a very carelessly performed duty, so that even in the case of the most logical minds there are many images hovering about the confines of clear-lit consciousness which have never been thus deliberately seized and attached to their right mental origin. The primitive impulse to find an immediate reality for an idea, with no reference to past experience, continues to exert a certain sway even in cultivated minds. And so it happens that in no type of human intellect are all convictions of the clear and definite character just described; nor are all the seemingly definite ones, calm and considerate groundings of anticipation on well-assured knowledge of past events. It may be worth while, perhaps, to inquire more fully into one or two varieties of this incompletely intellectualised belief.

It is easy, for example, to understand that even in the most thoughtful minds there are numerous vague and half-thought-out recollections, which are nevertheless firmly held to, as products of past experience. Who is not aware of a large number of ideas, wandering detached and free in his mind, each of which he vaguely refers to some past impression, without being able at all to determine the date and connection of the impression? For example: a person may feel pretty certain that he read *Robinson Crusoe* some time during his boyhood, and yet he cannot in the least recall the attendant circumstances. Here, the idea has, to speak physiologically, lost its processes: it no longer adjusts itself to other elements of the mind, and yet the mind unhesitatingly accepts it as the relic of an actual experience. The risks of this kind of belief must at once be obvious to a thoughtful reader. Where the experience is a frequently recurring one, there is of course little danger of the fading away of particular recollections. Thus, a universal

proposition, as "The air cools after sunset," or an affirmation of the continuous existence of a certain object, though, strictly speaking, a slight deviation from the precise facts of past experience, through the omission of certain limiting terms, serves on the whole as a useful, practical device, namely, the abbreviation of our communications. In other cases, however, where this practical requirement is wanting, there is far greater liability to self-delusion. A universal tendency to refer an idea to some past impression, instead of regarding it as a sign of a present reality, may, just like this earlier impulse, be an unwarrantable intellectual procedure. For many of our ideas come to us by other channels than our own actual experiences. Traditional story, reading, dream, and waking reverie, each of these pours into the individual mind its contingent of ideas, and nothing is easier than to mistake these, later on, for the products of individual experience. The savage, who is certain he saw, in night vision, the body of his slain chief, and so believes in his present existence, and the educated man, who cannot rid himself of the conviction that he actually saw and heard the wonders of fairy tale in which his childish imagination so long ran riot, both illustrate the illogical side of the tendency to refer ideas to actual experience. The reference may be a very vague one. We may have no clear conception of the period of life in which the impression or series of impressions visited us. Yet we find a degree of satisfaction in thus tracing back our detached and unexplained convictions to a dimly descried and remote past. At the same time, the older instinct to look for the present reality of an idea, asserts itself, and so we make these shadowy recollections, by a kind of unconscious intellectual habit, the ground of new expectations. The poet who fancifully, yet in good faith, attributes his early dreams of beauty to impressions of a prenatal world, is naturally disposed to rely on the permanence of those unearthly and ethereal regions. The man who is pretty sure he himself has walked in the Eden that his mother loved to paint to his young imagination, will not find it difficult to trust in a continuance somewhere, even now, of the unblighted garden.

This pseudo-recollection and its accompanying expectation are as various as the processes by which ideas are born, recast in shape, and regrouped. Thus, one great connecting influence among our ideas is to be found, as has been remarked, in a feeling of similarity. When the savage mind, discovering a strong resemblance between some crag or stump and a human form, at once feels sure

that the dead matter is possessed by a human soul, shadowy, yet still corporeal, one may see the powerful influence of a haunting similarity. With civilized men, the mental process is a little different. They feel, too, the power of a strong resemblance, but their belief in identity is checked by larger experience. It is afterwards, when the first source of the ideas has faded from memory, that the similarity of the mental images comes to be the basis of belief. And so it happens that any ideas joined together by a strong link of resemblance easily become a warrant of some objective connection in the things themselves, experienced in the past, and capable of being re-experienced in the future. Thus, a large number of the groundless beliefs embodied in our every-day popular sayings and proverbs are simply the result of this latent tendency to connect facts in the order of their ideas. A curious example of this common fallacy may be found in the disposition to connect processes of growth and decay in nature with the waxing and waning of the moon.* The powerful suggestions of change and new-birth conveyed by the young lunar crescent, have proved sufficient to sustain a belief in its connection with marked changes of weather, however little people may have actually observed any instances of such simultaneous variations. The element of feeling, or the wishing for certain events, which also contributes to the formation and duration of these beliefs, will be spoken of presently.

There are one or two other intellectual processes involved in this transformation of idea which ought, perhaps, to be just named here. One of these is that curious fusion which takes place between ideas invariably occurring in a certain connection. The uniting bond may be contiguity or nearness in time between the corresponding impressions, or the mental link supplied by a feeling of their resemblance. A signal instance of the first kind of inseparable association is to be found, according to Mr. Mill and other Idealists, in our supposed intuitions of external objects, the quasi-independent object having never in fact been a factor of our experience, and its idea being nothing but the mental residuum of that aggregate of impressions which we have uniformly experienced together under given circumstances. Examples of similar impressions blending to constitute apparently new types of idea are to be found in all our abstractions. According to the Nominalist

* See an interesting account of these ideas in Taylor's *Primitive Culture*, vol. i., p. 117, *et seq.*

theory, these ideas are nothing but closely united aggregates of like particular ideas, with their similar feature or features accented by the general name, which at the same time binds them together in a seeming unity. Yet they readily assume the appearance of perfectly new elements underivable from single impressions. And so one frequently finds a tendency in the human mind to give them in some form or another an independent position in the objective universe. Not only did the grotesque assumptions of the Platonic Realists spring from this tendency, but the modern hypotheses of an unknowable force, supposed to be necessitated by every series of like phenomena in external nature, involve among other mental agencies the impulse to invest a general idea with some kind of objective validity. Even general ideas of mental phenomena themselves may give rise to analogous beliefs. When the series of like volitional or ethical states is ascribed to a certain underlying power or faculty, namely, the will or conscience, the process is still the reflex movement of a general idea towards the semblance of objective reality.* For such secret powers of the mind are still conceived as somehow observable, and forming proper objects of consciousness to an adequate intelligence.

It will thus be seen, then, that the ancient yet still partially surviving notions of substance, being, substratum of powers or properties, and so on, imply both the fusion of closely bound ideas of contiguous impressions, and the blending of the products of a long series of like impressions into a general idea. To these two processes should be added a third, namely, the decay, through inattention, of certain portions of the original idea. That this last is discoverable in the frequent acceptance of general ideas as elementary states of mind, follows at once from the Nominalist theory, according to which, every such idea is nothing but a rapid series of particular mental images grouped in a certain way, though we only become aware of this fact after close reflection and exact analysis. In the case of contiguously linked ideas, too, the influence of this decay may sometimes be detected. Thus, the common notion of simple material entities, involving the supposition that the group of impressions actual and possible making up the full perception of an object is one indivisible existence, really springs, if the Idealistic theory is correct, from inattention to the intermediate links which

* The fuller illustration of this process in popular conceptions of the will, may be found in the following essay.

hold these various impressions together. So far from the colour, form, and taste of an orange being mysteriously united in one common point, it is necessary to interpose a large number of movements in order to pass from one to the other. But these movements are a constant element in all perception, residing not in the accidental circumstances of the moment but in ourselves. Hence the mind does not need to attend to them, and so the several impressions held together by them fall into one seemingly continuous whole.

As a result, then, of all such inner changes in our ideas, we find new types of belief growing up in the mind which have no direct basis in the facts of experience; though it is clear that all such beliefs tend with various degrees of force to simulate the form of experiences. Sometimes this is a present experience, as in the supposed intuitions of an objective world. At other times the belief becomes a vague anticipation, attended, it may be, by as vague a semblance of memory. Plato believed in a prenatal contemplation of the idea, and he fully expected to behold it again, in its purity and perfection, in a more exalted state. So the poet seems to look back on a past intuition of that Ideal of Beauty which he has half forgotten his own thought first fashioned, and fondly dreams, perhaps, that she will reveal her divine image to his unclouded spirit in a far-off world.

It follows from this conception of the nature of belief that the mind of each one of us at any given time possesses in its peculiar intellectual structure a clearly defined frame-work into which all new convictions have to be fitted. The range of observation in past individual experience, the habit of supplementing this knowledge by learning what others have experienced too, and the discipline of the conceptive and reasoning powers serve to determine the capacities of credence in relation to any new proposition submitted for examination. And the intellectual idiosyncracy thus established forms one side of what has been well termed the "personal equation" or variable individual factor in human belief. While progress in knowledge and in scientific inference, regarded under one aspect, involves a contraction of the boundaries of faith, since a hundred conceptions which are credible enough to a child or a savage are simple impossibilities to the scientific mind; regarded under another aspect, it signifies a vast expansion of the believing forces. For this progress not only supplies an indefinitely wider basis of new conviction in previously ascertained fact, but creates

a greater ability to entertain all kinds of new ideas, from the simplest to the most subtle and complex, and to detect the logical relations which they may hold with pre-existing ideas. And in this manner a thousand new statements which, appearing either meaningless or out of all relation to previous knowledge, awaken no connection in the untrained mind, call forth instantaneously in the scientific mind the deepest and strongest assurance.

But enough has probably been said respecting the intellectual conditions of belief, which, though perhaps the most conspicuous, are by no means the sole agencies determining its character and strength. As the conclusion of this part of our examination, one may say that belief attends in an inexplicable manner all ideal relics of our experience, and in normal states of the mind may be looked on as the instinctive self-adaptation of intelligence to external surroundings. Yet this tendency is frequently counteracted by other influences, even in the domain of intellect itself, except where high logical culture is found. We have now to pass to regions of the mind where we shall find this simple mathematical expression of the law of belief still more widely and seriously contradicted, and reduced to the position of a mere probability valid only within a very limited sphere of our mental life.

The powerful influence of feeling in belief has long been recognised. Indeed one thinks most persons would be inclined at first sight to call belief nothing but a particular feeling.* It certainly seems far more an emotion than an act of the intellect; and yet it is so unique a phase of the mind that it must be placed apart from the emotions, just as it has been distinguished from activity. Whether or not some amount of feeling proper is present in every belief is another question, and may perhaps, upon an ex-

* Mr. Bagehot, for example, in an interesting essay on *The Emotion of Conviction* (*Contemporary Review*), April 1871, distinctly regards all belief as emotional in character. Hume, as we have seen, regarded it as a sentiment of the mind. Belief has, no doubt, many analogies with feeling in general. First of all, apart from its subject-matter, it is of the nature of mental elation, whereas doubt, its opposite condition, is discordant and wearing. Then it tends, as Mr. Bagehot very clearly shows, to return to the mind just like any associated feeling, even when its logical grounds have again and again been destroyed. Still I think its differences are yet greater than its resemblances, and would serve to make its treatment under the genus emotion exceedingly confusing. The mode of its origin, the impartial range of its objects, and the fact that it holds common relations to all the emotions properly so called, renders it very undesirable to classify them together.

haustive analysis of the conditions of belief, be answered in the affirmative. Be this so or not, everybody will admit that feeling very often gives origin, or at least an extra support, to conviction; and, indeed, this opinion is well embodied in every-day phrases.

In order to understand the effect of feeling on belief, it may not be out of place to remember that our emotions are very much the same in character, whether excited by a sensation or an idea. While every idea is somehow or other *qualitatively* unlike a sensation, any colouring of feeling attending it is only *quantitatively* different from the corresponding phase of the sensation.* Thus the pleasurable aspect of brilliant light or graceful form is scarcely distinguishable, except in degree, from the grateful feeling which accompanies the mental pictures of these impressions, and everybody recognises in the uncomfortable feeling which a talk about tooth-drawing awakens, a certain faint measure of precisely the same quality of pain that the actual operation produces. So far as the sensation is recoverable at all, its pleasurable or painful concomitant is exactly reproduced. And if this is true of the simple feelings attending a sensation, it is still more true of those composite feelings accompanying a sensation and a group of adhering ideas, that is to say, our emotions. The pain of an actually perceived insult is scarcely distinguishable from the pain of a suspected or distinctly conceived insult; and the aroma of pleasure that is breathed from a spring landscape comes no less pure through the ideal channels of a poet's verse. There seems, then, to reside in all feeling a force obstructive to the exercises of clear discrimination between idea and sensation, assumption and fact, which, when the emotional colouring of an idea is strong, readily tends to counteract the intellectual processes and to confuse the mind.

But not to dwell on this fundamental peculiarity of emotion itself, one may best of all trace its influence on belief by considering its relations to our ideas and intellectual processes. The first thing to be remarked here is, that whenever an emotion attaches to itself distinct ideas, they tend to become very intense, to brighten, so to

* It may not be difficult to find a plausible physiological reason for this difference. A sensation, being the direct result of a peripheral stimulation, could hardly resemble an idea, which is due to a central nervous initiation having quite a distinct direction. On the other hand, emotion being supposed to involve a diffused wave of nervous agitation in the central tissues, the physical process would be much the same whether the original source of the stimulation were the periphery or the centre.

speak, in the glow of the emotional surroundings, and to attain a vivacity and a persistency which assimilate them more or less completely to external sensations. Though it has been assumed here that there exists in normal conditions of mind a self-evident distinction between the sensation and the idea, nobody can help seeing that the idea has a marked resemblance to the sensation, and shades away from its original in very fine gradations. Now, the effect of any emotional agitation is to give such a glow of intensity and such a stubborn persistence to the idea it may call up in the mind, as almost to obliterate its distinctive marks. Whether it be pleasure or pain, or even some neutral emotional excitement, as the feeling of wonder, it constitutes a force which, by rendering ideas highly intense and vivid, nourishes a corresponding intensity of belief in the immediate presence of the reality.

The second point to be noticed in understanding the influence of the feelings on belief, is the direction which a ruling emotion gives to the thoughts. Every feeling tends, according to what may be called a law of self-conservation, to sustain itself in consciousness and to oppose the entrance of heterogeneous and hostile feelings. To this end it welcomes and retains all ideas fitted to intensify it, and excludes others which would serve to diminish its force or to introduce an opposite state of feeling.

Thus we have to remember two facts, namely, that all ideas in so far as they are accompanied by an emotional excitement are vivid and persistent, and that any emotion when once excited exerts a supreme influence on the ideas of the time. These facts constitute the two sides of the mental process by which feeling influences belief. We may trace out this double process through the whole range of our emotional life. A few examples will perhaps suffice to make its nature apparent. In discussing these we shall have to distinguish the case in which a feeling is excited by some object immediately present, from that in which it is called up by an idea. Further, in dealing with the latter class of cases it will be necessary to consider both the effect of the feeling on the ideas which reinstate it, and its further influence after it has gained a certain stability in consciousness.

The simplest illustration of an emotional influence on belief is supplied by an actual sensation. Whenever the perception of an object is accompanied by a sensation of pleasure or of pain, the element of feeling immediately begins to sway the mind, and by controlling the intellectual processes interferes with an exact

appreciation of the facts. The mind of the observer now looks at the object through an emotional medium, and so fails to discern the true relations of things. Even an intense sensation which is not distinctly painful or pleasurable—for example that produced by an impressive and strikingly novel object—may exercise this disturbing effect on the perceptive activities. Apart from the fact that all emotional excitement interferes with the voluntary command of the organs of perception, we may observe a tendency in the modicum of feeling thus called into existence to give the thoughts a certain order. The mind thus excited brings intense anticipations to the observation of objects, and these serve to shut out the recognition of the actual facts. A very common instance of this effect may be found in the impulse of most persons under the first smart of a bodily hurt to discover some intentional offender. When a boy angrily kicks away the chair against which he has stumbled, one may trace the action of feeling in blurring the real outlines of things. One of the most universal effects of feeling on belief is due to the impulse of an emotion to justify itself, by discovering some objective cause which may serve as a reason for its intensity. In this way it happens that as soon as an impressive spectacle has filled a child's mind with admiring wonder, this pulsation of emotion reacting on the thoughts serves to magnify the reality which called it into activity. Thus all feeling accompanying sensation interferes, in some slight measure at least, with the just perception of truth. Ideas which would ordinarily be called up do not arise in consciousness; the processes of memory and inference which constitute our normal perceptions are impeded; and the mind supplies an interpretation of the facts out of its own emotional activities.

A slightly different example of this process is afforded us by the influence of a remembered sensation. When an idea of some elementary painful experience is excited, it possesses, through its emotional colouring, a high degree of vividness. Hence it appears to be too near to the immediate present. A child, for example, when vividly conceiving the misery of some recent punishment or the delight of some rare holiday, momentarily believes in the proximity, if not in the actual presence, of the experience. And with this intensity of the emotional idea, there is an unusual vividness in any other ideas which it may call up, so that the mind is ready to believe in the present reality of the producing causes and attendant circumstances of the feeling. A further effect which

is discoverable here must not be overlooked. The faint vibrations of pleasurable or painful feeling thus called up, apart from any immediate objective cause, will last for some appreciable period, and during this time will exercise a distinct sway on all ideas arising in the mind. And so it is exceedingly likely that this elementary mode of feeling may induce a brief reverie, in which imagination will bring together new conceptions of similar experiences. Thus, for example, a brief elation of joy consequent on some recollection of a simple pleasure will pass into pleasant visions of airy castles. In this way all feeling presses imagination into its service, and seeks an ideal indulgence in wild longing and fanciful anticipation, when no actual gratification is immediately offered it.

It follows from this effect of a strong emotional ingredient in sensation, both when actually excited, and when ideally revived, that the mind will be instinctively predisposed to single out all its highly impressive experiences as special objects of confidence. Impressions which do not rouse any strong pulsation of feeling will be unnoticed or pass into speedy oblivion; whereas all striking impressions, especially those distinctly tinted with a hue of pleasure or of pain, will, by their hold on attention, memory, and imagination, attract a powerful measure of confidence, and constitute the region of fact and reality *par excellence*. And thus the mind possesses in its simple emotional susceptibilities a powerful bias to misinterpret the totality of experience by giving undue prominence to a certain order of facts.

Much the same kind of process may be studied in the history of the emotions, properly so called; and we need not dwell on these in detail. An emotion involves many ideas of elementary sensational experiences, and consequently is able to act on a larger area of the intellectual surface. The more complex the emotion, the greater the range of ideas it is capable of exciting, and the wider its influence on belief. The narrower influence of a sentiment is illustrated in the case of emotions which attach themselves to particular objects. A strong affection for some person tends to colour all ideas entertained respecting the nature of its object. Whenever the impulse of tender regard is strongly excited, the mind is quick to spy qualities fitted to gratify the feeling, and slow to detect the presence of adverse qualities. Similarly, with the egoistic sentiment of pride. The action of this kind of emotion may be estimated according to the complexity of the object and the number of ideas connected with it. Thus, the patriotic sentiment is

fitted to exercise a much wider influence on belief than a private affection, while the "enthusiasm of humanity," if uncontrolled by the intellectual culture which usually accompanies it, may distinctly tinge a large segment in the circle of our customary convictions. In these instances, too, one may distinguish between the effects of the emotion called forth by the appearance of some actual object or quality, and the extended sway it exercises in its ideal revivals.

A more important case of the action of emotion on belief is that of a feeling which does not adhere to a definite object, but is susceptible of gratification by an indefinite number of objects so far as they possess some particular property. This more abstract form of emotion exercises a very wide dominion on human credence, even though, owing to its peculiar nature, its influence is less violent and obtrusive in each particular case. As an example of these feelings I would select the more refined sentiment of awe which arises in presence of the mysterious. I call it refined, in order to distinguish it from the more abject sentiment of terror which the unknown is apt to excite in the uncultivated mind. All that is requisite to call this feeling into play is some unexplored region of phenomena, or when this fails, the dimly conceivable region of existence that is hidden behind phenomena. This is a distinctly pleasurable variety of feeling, if not one of the most delightful, and the gratification afforded it by any apparent mystery reacts very powerfully in sustaining a belief in the reality. This sentiment, too, is capable of deriving a vast quantity of gratification from an ideal and imaginative activity. Not only does it lead the mind to anticipate the presence of insoluble mystery where a calmer intellectual vision sees only clear regularity, but it serves to support conceptions of an unknowable where the closest observation and most accurate reasoning fail to detect any signs of such an existence. Quite similar to this feeling in its action on ideas and belief, are the æsthetic emotions. The sentiment of delight in all things beautiful is a most fertile source of ideal anticipations and beliefs unsupported by experience. Though all ideas of beauty were originally the product of experience, they undergo in the processes of imagination and emotional reverie a great many transformations; and thus the mind is able to fill up every blank in nature with new shapes of loveliness. How these feelings are wont, in the absence of actual impressions, to seek a new ideal territory, is shown us in every graceful myth and every poetic dream. In a lesser measure the ethical feelings exert a similar sway. A sensitive moral feeling

receives a refined pleasure from every fresh discovery of human goodness and of a seemingly just adaptation of happiness to desert; and thus it frequently impels the mind to cherish an optimistic view of human nature and of the ultimate destinies of mankind.

The feelings whose influence on belief has just been considered appear, for the most part, to be mere disturbers of accurate cognition. Although they are first awakened by immediate reality, namely, a present sensation, they soon grow independent of their original stimulus, and, living in isolated regions of their own, fashion ideas and assurances which have no real objective relation.

We will now turn to a series of emotions which owe their origin to intellectual activity and the pursuit of truth, and which may be supposed, therefore, to exercise quite another sort of influence on our convictions.

The feelings I would include under this head are curiosity, or a desire for knowledge; the sentiment of authority, in its modern form, or a dutiful regard for the testimony of others; the sentiment of unity and simplicity in nature; the feeling of consistency, or a sense of agreement among our several beliefs; and finally, the sentiment of attachment to experience and fact as the only sure basis of knowledge. They are all developed as the concomitants of intellectual culture, and in a large measure subserve the processes of discovery and knowlege. They constitute susceptibilities to pleasure which are for the most part properly satisfied by a just and logical ordering of our ideas and belief. Hence they do not admit of that ideal gratification by purely imaginative thought, which, as we have seen, is so fruitful a generator of belief in connection with the non-intellectual emotions. Yet these emotional plants may become transplanted from their original intellectual soil, and undergoing certain changes of development, may bear slightly different fruit in beliefs which are not perfectly exact or logical. Though comparatively a quiet and contemplative order of feelings, they have great latent emotional force, and frequently originate and sustain, in the absence of adequate evidence, strong and enduring convictions.

A detailed account of these feelings will not be required here, and I will only venture to indicate slightly their several modes of action on belief. The sentiment of curiosity is the force which prompts the mind to seek knowledge; and as a pleasurable susceptibility, gratified by any new enlargement of knowledge, it serves to

sustain belief in nature's facts and laws. But the feeling is just as susceptible of gratification from *apparent* discovery; and in consequence of this it frequently manifests itself as an excessive eagerness for knowledge, and as an impulse to grasp at certainty where all is obscure. The feeling of authority, again, which may be conceived as arising out of the reactions of human companionship and the gradual discovery of the value of others' experiences for the individual life, evidently subserves that subordination of individual to collective experience which is a condition of all just and correct knowledge. Yet it is by no means completely ancillary to this well-regulated assurance, for in its extreme manifestations it is an excessive readiness to believe in another's assertion, or a predisposition to the sympathetic contagion of belief whenever it is earnestly pronounced by another. The sentiment for unity in nature is a proper intellectual pleasure, which accompanies the mind's successful assimilation of facts and the play of inductive reason. Yet mingling with it there is an æsthetic delight afforded by the beautiful aspects of unity and symmetry. Hence this feeling is exceedingly apt to outrun correct logical inference and to promote the acceptance and retention of any ideas which seem to supply another uniting thread to nature's manifold phenomena. From the rash attempts of the Greek physicists to discover some all-pervading ἀρχή or fundamental form of the material universe, to the last experiment of the German metaphysicians in constructing a new *Weltanschauung*, one may trace the continued action of the mind's eagerness for even a semblance of unity. Once more, the sentiment of consistency, on its painful and pleasurable sides, prompts the mind to maintain a due order and agreement among its various convictions, and thus subserves the proper rejection of all contradictory assertions and the acceptance of conclusions deductively involved in truths already admitted. Yet while it is thus essential to just and logical processes of belief, it may, as a mere feeling, lead the mind away from the direction of objective truth. A man may hold quite tenaciously to a doctrine which appears to him to follow from some well-certified belief, although there is in reality no such logical connection. In other words, this feeling like all others is only auxiliary to correct belief when it is wholly subordinate to perfect intellectual action. Finally, we may find in the feeling of attachment and veneration which grows up towards experience as a ground of belief, and which is so characteristic of the cautious practical mind and of the naturalist order of the scientific mind, a senti-

ment which subserves the higher confidence in conscious inference from fact, and the acceptance of inductions always susceptible of re-verification by a new appeal to fact.* Yet even this feeling, when it gains a too powerful hold on the mind, proves inimical to a just appreciation of truth, as may frequently be observed in the rejection by naturalists of historical theories, just because they do not admit of immediate verification.

Thus it appears that, while each of these higher sentiments may be regarded as a valuable controlling influence in respect to the lower feelings, no one of them is a perfectly safe regulator of belief. Just logical conviction is only attainable by means of a proper co-ordination of these emotional forces, in which each is completely subservient to its intellectual function and exercises an influence proportionate to this. And this only becomes possible with the advance of logical culture, and of the subjection of the feelings to the dominion of the will.

Thus far we have been attending simply to the processes through which feeling affects belief, studying these in their several varieties according to the modes in which the feelings are excited, and to the objects which stimulate them. In order, however, to understand the whole influence of feeling on belief we need to recognise another factor, namely, the capacity of a mind for a given type of emotion, or its tendency to pass into a particular emotional state. For the recurrence of any feeling may be looked on as the resultant of two forces, namely, the pre-existing susceptiblity of the mind, and the direct action of some stimulus, whether an external impression or an idea. We will very briefly glance at the several manifestations of this latent emotional force in the product of belief.

The simplest form of liability to emotional excitation and consequent belief is presented by a transient variation of mental tone. At any given time in our mental life there lies beneath the mental surface with its particular images and feelings a ruling mood, which is intimately connected with the state of health at the time. And these alternations constitute varying tendencies of belief, showing themselves, now as a disposition to entertain gloomy ideas of things, now as an excessive readiness to indulge in bright and flattering views of life. A higher form of this effect of emotional

* See some good remarks of Helmholtz on the superior reliance of scientific men on the natural, as contrasted with the moral, sciences, *Populäre wissenschaftliche Vorträge.* Lecture on *Das Verhältniss der Naturwissenschaften zur Gesammtheit der Wissenschaft.*

capacity may be seen in the influence of a permanent natural temperament. Thus, for example, a mind may be distinguished by a high degree of emotional susceptibility in general, and in this case belief is liable to be largely swayed by feeling. And further, there may be a special natural liability to certain orders of feeling. Some people appear to have a natural affinity for ideas of a gloomy and painful character, while others take rather to bright and joyous suggestions; and thus we have a natural basis for the pessimistic and optimistic conceptions of the world. Not only may there be a special natural susceptibility to the pleasurable or to the painful, but one may observe a predisposition to a definite variety of emotion and its attendant belief. Thus, we may notice that some children are naturally inclined to entertain independent views of facts, while others, of a more timid and sympathetic temperament, are disposed to accept their beliefs from their guides and companions, and thus to repose on authority.

How far these instinctive predispositions extend, we need not now try to determine. It is a highly plausible supposition that in by far the greater number of our emotional activities there is a considerable element of natural capacity which is a development of ancestral experience. And on this supposition, the several orders of emotional susceptibilities and their attendant capacities of belief are slowly undergoing certain changes, according to the transitions of human experience in successive generations and ages. However this be, it is evident that with the progress of experience and education in the individual life, the various emotional susceptibilities undergo vast modifications. This may be seen both in the gradual subsidence, to moderation or even to perfect quiescence, of the wild feelings and anticipations of youth, and in the growth, in volume and intensity, of emotions which do not appear, in great force at least, in the earlier years of life. A proverbial instance of emotional decline and its attendant loss of early faith is to be found in the abandonment of youthful and romantic views of life, which Schiller so well expresses in the words :

"Erloschen sind die heitern Sonnen
Die meiner Jugend Pfad erhellt;
Die Ideale sind zerronnen,
Die einst das trunkne Herz geschwellt;
Er ist dahin, der süsse Glaube
An Wesen, die mein Traum gebar,
Der rauhen Wirklichkeit zum Raube,
Was einst so schön, so göttlich war."

As an example of emotional growth I may select the development, through experience and external training, of a permanent sympathetic disposition, or a constant readiness of mind to pass into actual sympathy with others at the slightest suggestion of sorrow or of joy. And in this way the mind's capacities of belief become greatly altered. This will be seen both in the case of external stimulation and in that of internal revival. The faintest indications of a good quality, for example, will be magnified by a mind habitually inclined to kindly sentiment, and in this way all its perceptions may slightly deviate from a perfectly rectilinear direction. Further, the latent disposition to a certain mode of feeling will manifest itself in frequent ideal gratifications. And thus, for example, a high degree of cultivation of the æsthetic sensibilities may produce a permanent tendency, not only to anticipate revelations of the beatiful in nature and human life, but also to project imaginatively ideas of beauty into every unknown region of space and every remote cycle of time. And it is to these latent impulses of emotion and belief that the poet and romancist are able to appeal.

The whole influence of feeling on belief, as determined both by the processes of emotional activity and by the changing susceptibilities of human nature, might be considered with respect to the permanence and degree of universality of the resulting beliefs. It follows that whenever an emotional source of belief is constant, among many individuals and through several generations, the isolated beliefs thus generated pass into collective beliefs. In this way, for example, originate those crude and incomplete views of nature,—those "fallacies of simple inspection" — which are due to the common tendency of men to observe only what is emotionally impressive and interesting, and to regard these as the types of nature's processes. And thus it happens that so many of our daily proverbial maxims rest, not on a stable basis of fact, but on the sandy foundation of emotional conceptions. As an example of these petrifications of emotional error, I may allude to the well-known sayings respecting the certain detection of crime, the final success of moral worth, and the just distribution of prosperity and adversity, all of which are evidently sustained by the ideal activities of the moral and sympathetic feelings, and the wish for a certain order of things which every feeling is apt to generate.

In concluding this brief sketch of the emotional influences of belief, I may notice that just as at any given time an individual mind has a certain fixed intellectual shape into which all new beliefs have

to fit themselves, so it has a number of definite emotional forces, attractive and repellent, the play of which helps to determine the acceptance or the rejection of any new claimant on confidence. Thus a proposition which obviously accords with some permanent wish of the mind becomes drawn in and absorbed into the mental organism through the action of these emotional tentacles.

So far we have been examining the laws of belief with respect simply to a passive mind, by supposing, that is to say, a consciousness wholly made up of sensation, thought, and feeling. It is easy to see that this is a very incomplete solution of the problem. The human mind does not pass a quiescent existence of pure feeling and idea. As action and active impulse run all through human life, so they enter more or less into all forms of consciousness. Will they not, then, have something to do with belief? Reference has already been made to a theory of conviction which appears to assign the whole of its primitive force to the active impulses. I have felt compelled to differ from Mr. Bain in his theory of the relation of belief to action, and it now remains for me to state what influence activity may be conceived as exercising on our believing power. That there is a connection between them, is proved by the fact that all consciously directed action proceeds on belief as its basis. When a man runs to get warmth, or sets himself to write a newspaper article in order to earn money, he must have some conviction of the efficiency of his action. Now, it may be asked whether, belief being clearly a condition of conscious action, the very needs of action do not react in modifying belief?

In the simplest type of belief in the child's mind, we have recognized the presence of an idea of some interesting experience vividly recalled as an eager anticipation. If we now add to this the existence of a vigorous activity, we may easily see why a number of muscular movements may be undertaken with some vague design of hastening the approach of the anticipated enjoyment. This is simply the influence of belief on action. But this does not appear to exhaust the whole phenomenon. The robust youth has a predisposition to muscular action of all kinds. There is a certain relief and elating pleasure in the mere expenditure of motor energy; and the result of this is that the slightest suggestion of a scope for movement is eagerly seized and turned to account. This excitement of muscular action forms, just as the emotions properly so called, a permanent ruling affection with respect to the ideas that flit through consciousness. Thus all ideas sug-

gestive of movement in any shape are apt to linger and become vivid. Talk to a healthy boy about the prospects of the morrow, the chances of a fine day, and a day's excursion, and you will see how the idea of a fresh indulgence of muscular activity fills his mind, producing even at the moment nascent movements of the limbs and the whole body. But any emotional agitation that helps to render an idea less obscure and evanescent, tends, as we have seen, in the same degree to sustain belief in the objective reality. And a similar thing happens here. The primitive need in the young mind of numerous vents for muscular energy will have a very marked effect on its beliefs, which will be manifested in various ways. First of all, it will stimulate confidence in the possibility of every new undertaking. A certain proposal is made to a strong active boy, say of some hazardous adventure, as a day's hunting, which his father suspects may be beyond his power. The force of the active impulses generating an eager desire for doing something, will tend to shut out from view all limitation to endeavour, and to encourage a boundless faith in the primitive formulary, "I can." In the next place, this same influence of the motor energies and their accompanying needs will tend to exclude from the boy's mind all ideas of difficulty and obstacle in thinking about a scheme of action. That is to say, it will lead him not only to overrate his own powers of doing and bearing, but also to underrate the gravity of the things to be done and borne. It will thus serve to modify his first view of nature, inclining him to expect one particular order of events rather than another. He will be apt, under the influence of this recurring motor excitement, to think everything around him specially friendly and favourable to his plans. In other words, the mind, when thus agitated, is in danger of losing sight not only of the many chances of some unpredictable accident fatal to the end in view, but even of the great probabilities of numerous retarding obstacles; and it starts on every new enterprise with something of a touching chivalry of trust in nature's amiable and kindly attributes.

In the influences of the active propensities just considered, one can see merely a force which, like an emotion proper, encourages definite varieties of belief. One fails to find in them a common fountain of all kinds of confidence. The appetite for action, bred of the motor energies, while it serves to sustain one order of convictions, just as certainly helps to destroy another order. The just acceptance of the hostile in nature and life, not to speak of the

gloomy assurances of the pessimist, is impeded by the very force which drives belief into other channels.

But there is another class of cases where the influence of activity on faith seems of a slightly different character. Instead of conceiving this force to be introduced into a mind either quiescent in relation to belief or leaning to an opposite conviction, let us imagine it introduced into a medium of doubt and hesitation. Suppose the case of a hale energetic man whose mind has to confront two nearly balanced probabilities, both of which fit in equally well with his wishes and emotional needs. Previously to the addition of motor impulse, the mind would be drawn asunder by contending anticipations, each of which assumes in turn a momentary reality, and is then overborne by the other. The new influence does not in this case add any force of credibility to either of the suppositions. But it may still contribute to belief. As a strong predisposition to action of any kind, it will serve to end the state of doubt and inaction; and it will effect this by siding, so to speak, with some momentary preponderance in one of the contending suggestions so as to determine action in that particular direction.

In this instance, then, there seems to be exercised an influence on belief quite unlike that of emotion proper. Activity favours here not a particular variety of confidence, but any mode of confidence whatever, as opposed to doubt. Now what is the precise amount of this influence? First of all, if this premature kind of action is immediate and momentary, there seems scarcely room for the believing attitude of mind, properly so called. Impatience of inaction appears to produce in this instance an interruption of the normal process of belief, just as it may produce a disturbance of the normal process of volition by transforming the accidental and momentary preponderance of one motive among many conflicting ones into an adequate stimulus to action. When, however, the line of conduct thus determined extends over an appreciable period, it involves no doubt the retention of an idea of the end to be attained and a belief in its attainment. How far the mere impulses of activity can of themselves in this way generate and sustain distinct belief, seems a nice question, which may well be left to the reader to decide for himself.

Still, supposing such an influence to be possible, one must admit with Mr. Bain that in many of the common manifestations of faith it may exercise an appreciable effect in combination with the more conspicuous forces of experience and emotion. Thus for example,

it may have proved, along with the influences of curiosity, a distinct stimulus to much of the early faith of mankind in purely fictitious beings and agencies in nature—the instincts of action, which crave definite scope for their satisfaction, helping to retain in the mind and vivify the crudest suggestions of experience and analogy. Similarly, in the practical mind of the experienced adult, this active force, modified by knowledge and habit, and appearing as a powerful predilection for all practical ideas, may no doubt help to give intensity and strength to its every-day convictions. With such persons, whose mental horizon is that of pressing daily exigency, ideas that appear remote from their immediate pursuits do not attract belief. On the other hand, within the limits of their practical affairs, any clear and definite idea, by opening up a channel for active endeavour, serves as a *point d'appui* for the believing impulse. They prefer even the certainty of evil to uncertainty, since the former opens up at least a road for alleviative action.

At the same time it is clear that even this influence, the precise extent of which need not be determined, is still a force favouring a certain order of beliefs, namely, such as are fitted to be immediate openings to action. In the large class of beliefs which I have called passive, the great initiative impulse is feeling, action being at times conspicuously absent, as in all the phenomena of anxiety and alarm. So, too, in the more intellectual beliefs, we find conviction growing up without any trace of the influences of activity, its sufficient cause being here intense conception, whether reminiscent, imaginative, or logical.

Passing from active impulse to action itself, one may ask whether the habit of practically carrying out a conviction has any reflex effect in strengthening it, apart, of course, from any new logical influence the results of the action may supply. It seems pretty certain that habitual conduct, while tending to become less and less a conscious process, and so to leave but little room for the distinct intellectual conditions of belief, may very much heighten the latent resisting force of faith. Religious conviction, for example, illustrates not only the support supplied by the many entwining tendrils of feeling, but also the tendency of any idea long cherished and acted upon to become a necessity of the mental organization, to tear up which, would be to strike deep down towards the roots of mental life. The effects of habit on belief appear thus to be twofold: while it may tend to reduce the believing process to a rapid and fugitive mental state, it at the same time immensely deepens the potential tenacity of belief.

The mode, however, in which the will most certainly affects belief is through the activities of voluntary attention. We have seen how the presence of an emotional element in an impression or in an idea serves directly to vivify it. And it must now be added that whenever the impression or idea is a pleasurable one, it calls forth the energies of attention and thus rises into greater distinctness and acquires greater permanence.* It is in this manner that all our wishes succeed, apart from their immediate emotional influence, in keeping their objects before the mind. A sad, or even a painful feeling may excite the imagination to action, and so promote belief, but it cannot work through the will; for, so far as it is a painful state of mind, voluntary energy will tend directly to oppose it and to terminate its existence. On the other hand, a pleasurable feeling has the double advantage of an emotional and of a volitional influence on the ideas and beliefs. All the pleasurable emotional susceptibilities may thus, through the stimulation of attention, exert an appreciable effect on belief. Thus, for example, the sentiment of curiosity or of unity will frequently induce a concentration of attention on the ideas which gratify it, by force of which they tend to keep possession of the mind to the exclusion of all rival suppositions.

Another mode in which the will may indirectly affect belief is through a restraining of the emotional impulses. With growing experience the mind learns the evil of hasty belief prompted by desire and unsupported by evidence, and thus a motive is generated for restraining the tendency of feeling to keep ideas before the mind in false proportions. This exercise of the will may either directly modify the strength of the feeling itself, or, by a direction of attention to other ideas, indirectly discourage the feeling. By this means each of the higher sentiments of truth may become a motive in checking the tendencies of the more exciting feelings, and even in limiting the effects of its rival sentiments. Thus for example, a feeling for the supreme value of experience as a basis of belief frequently incites the will to resist the impulse to accept any new idea which appears to simplify and unify the phenomena of nature.

This voluntary regulation of belief will be as various in quality and in degree as are the developments of the will as a whole, and the stages of intellectual discipline. Its highest manifestation is

* The effects of attention on our sensations have been examined in the preceding paper.

the habitual control of all the emotional and ideal impulses of belief by a deliberate postponement of confidence till all suggestions relative to the matter have occurred to the mind, and all the higher sentiments of truth and consistency have had time to exert their several influences. Just as deliberation before action is nothing but a higher development of volitional force in consequence of numerous experiences of the mischief of hasty conduct, so a temporary repression of the emotional influences, and a thoughtful and impartial attention to the ideas suggested by the proposed subject of confidence, are nothing but finer developments of the voluntary command of thought and feeling, consequent on innumerable discoveries of the inadequacy of any one impulse to the formation of just convictions. And in the highest types of mind this voluntary activity, with its subtle and highly complex motive, supplies an invaluable element in the growth and retention of belief. Although this influence of volition on belief clearly has its limits,—for otherwise the many pious attempts to coerce belief could hardly have been so futile—yet as an indirect agency controlling all the proper sources of belief, it must be looked on as the highest condition of conviction in a well-developed mind.

In conclusion it may be remarked, that if this analysis of the conditions of belief be a correct one, it must be adequate to the explanation of those tolerably uniform stages in the development of belief which are observable both in the individual and in the race. That is to say, it would enable one, from a consideration of the order of the causes actually exhibited, to explain the order of the effects. Thus, one ought to be able to say why the historical development of belief presents certain seemingly regular phases, say, the three stages assigned by Auguste Comte. From a consideration of the ignorance of primitive man, of the emotional state suitable to this condition, and of his gradual emergence out of this state through the accumulated lessons of experience transmitted by tradition and possibly by mental inheritance, it should be possible to predict the general course of development which we now find human belief to have taken. Yet this synthetical complement to the analysis must be left to the reader to supply for himself. An illustration of such deductive explanation may be found in the following paper, which deals with the forces originating and sustaining one of the most curious of the speculative beliefs of mankind.

# THE GENESIS OF THE FREE-WILL DOCTRINE.

If the development of a great speculative question can ever reach a stage at which one is justified in asserting that there is nothing new to be said about it, this final phase would seem to have been attained by the free-will controversy. For many centuries it has been the battlefield of polemical philosophies. All the fervour of theologians has been brought to bear on both sides, and many of the mightiest intellects, which form the central columns in the great invisible temple of thought, have made this issue the grand test of their speculative range and dialectic skill. Yet more, the question is not of a nature to be susceptible of much new direct illumination from the progress of human knowledge. It arises more from the peculiar complexity than from the inaccessibility of the phenomena concerned, more from the incapacity of the mind for clear and steady observation of facts presented to it, than from the narrow limits that circumscribe its field of vision.

This being so, it might seem, *primâ facie*, an act of no ordinary presumption to attempt to add to the copious pre-existing stock of argument in behalf of either side. In defence of such a course, however, it could be urged, that if there remain no more general features of the question to be discovered, those already exposed to view may be illustrated anew, and perhaps brought nearer to the region of perfect intellectual vision. Further, it might be pleaded that even if there is little of this work remaining to be done, and a decision must be made upon the facts and reasonings already presented, it will not be amiss for us, in the capacity of military students, to revisit the old battle-ground, in order to see how the fight was carried on, what position each conflicting party took up, and by what causes the fortune of the day was determined.

Yet the following essay does not propose to itself to undertake a complete review of the controversy. It does not aim at giving the

rationale of the arguments, or at estimating their logical value. It seeks to be a psychological rather than a logical study: not to determine the relative force of all the various considerations urged on both sides, but to account for some of those peculiar notions and beliefs, the strong vitality of which has given much of its duration and ardour to the combat. It cannot be laid to the writer's account if in attempting this he seem so far a partisan as to confine his attention to the ideas involved in one view of the subject. For any one only slightly acquainted with the controversy must have perceived, that all which was peculiar in the conceptions and opinions concerned was on one side. The supporters of the doctrine of free-will have, *ipso facto*, committed themselves to a theory which is not only unique, but in direct contradiction to the principles by which, confessedly, all other departments of phenomena are explained.

The peculiar theory whose origin and continued acceptance we are about to examine, may, perhaps, be thus stated: Human actions, done consciously and with choice, do not, like the operations of material nature, present a distinct order of occurrence, and so admit of generalization and prediction. That is to say, one cannot be certain that similar circumstances—including the external surroundings of the moment and the permanent dispositions and fugitive impulses of the agent—will be attended with a similar result. Our voluntary actions are, on the contrary, the unconditional products of perfectly spontaneous beings, and must be conceived as falling into certain directions rather than into others, not because of any limiting circumstances external or internal, but simply because of the fortuitous and unpredictable selection of an undetermined mind or will.

This is as good a definition of the curious tenet as the present writer is able to frame. At the same time, it must be remarked that its advocates have rarely sought to reduce it to a precise definitive form. And it must be admitted that there are considerable differences in the mode of viewing the subject, as illustrated, for example, by Kant's ingenious reservation of the epithet unconditioned for the noumenal, as distinguished from the phenomenal will. Yet all forms of the doctrine that need concern us really point to the conclusion, that actions resulting from choice cannot be classified with the ordinary phenomena of causation in respect to their invariable order and conditional certainty. I shall, following excellent examples, discard the terms necessity and freedom, and employ the expressions determined or determinate with their

opposites, because the latter confessedly express the ἀμφισβήτημα or real issue of the dispute, while the former are very misleading through other and irrelevant associations.

In examining this belief as a subtle and complex product of the human mind, it may be well at the outset to observe that its advocates have almost uniformly maintained it as a subjective truth, revealed by internal consciousness, while they have not attempted to establish it on an objective basis, as an induction from the facts of human conduct. Although the peculiar complexity of volitional phenomena makes it a very difficult matter to prove the presence of a prevailing motive in all cases of voluntary action, this circumstance has not been made use of as a main point of attack by the opponents of the Causal theory. They have, on the contrary, rested nearly all the stress of their argument on the alleged verdict of consciousness.* It appears, indeed, to have been generally allowed that when we view voluntary actions as objective facts, a large preponderance of evidence is in favour of the induction that they conform to certain laws.† Nor does it seem possible that any one, after a fairly careful observation of human beings acting in masses, and sustaining relations to one another involving mutual confidence, could doubt the validity of this induction, at least, as an approximate generalization.‡ The notion, then, that our actions are exempt from the great law of causation, seems to have sprung from an ideal source quite as much as from any peculiarities in the nature of the phenomena, though these have also contributed their influence.

With this brief reference to the chief logical grounds of the belief, we may enter more minutely into the psychological causes of its intensity and persistence. These causes, as already said, one may

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* "Ego certe mea libertate gaudebo cum *et illam apud me experiar* et a te nulla ratione, sed nudis tantum negationibus impregnetur."—Descartes, Opera. Med. IV. Dub. iii. Responsio. "We have by our constitution a natural conviction or belief that we act freely."—Reid, *Active Powers*, chap. vi. "The fact of liberty may be proved from the direct consciousness of liberty."—Sir W. Hamilton, Edition of Reid's Works, note on *Prescience and Liberty*.

† This doctrine, it is manifest, is at the very root of Kant's theory that Freedom is not taught by Pure Reason, but must be postulated by the Practical Reason. It was recognised by Sir W. Hamilton himself, who says (contra Reid), "Can we conceive any act of which there was not a sufficient cause, or concourse of causes, why the man performed it and no other?"—Edition of Reid's Works, p. 609.

‡ Even without the statistical evidence on which Mr. Buckle dwells with such emphasis.

expect to find chiefly in the laws of the thinking faculty, although certain peculiarities in the nature of the phenomena must not be left out of the calculation. It will be convenient, perhaps, to treat them in the order in which they present themselves in the history of the doctrine.*

And first of all, it may be well for us to try roughly to figure to ourselves the obscure notions men entertained of the will and voluntary action before speculative thought began to pry into its ultimate principles. In doing this, moreover, one may with advantage distinguish between the impression likely to be made on the mind of a primitive man by visible voluntary actions, whether of his fellows or of the more rational brutes, and the conception of volition fitted to arise out of that dim mode of subjective reflection of which such a simple order of mind was capable.

How, then, it may be asked, did these uncultivated people look on voluntary action side by side with other varieties, vital and mechanical? Now it must be admitted that there is much in the peculiar character of all actions involving conscious selection that would be highly impressive to such early and unpenetrating vision, and fitted to lead the observer to separate them as widely as possible from the other movements and events of nature familiar to him. While he would easily come to see that many changes in external nature and human life follow definite conditions, he could scarcely be expected to discern a like order among human or other voluntary actions. If such an observer could define his impressions, he might, not improbably, talk in this way: "When by kindling a fire I get warmth, I see that the warmth follows the fire. So when a comrade, struck by a missile, falls to the ground, I know that it is the blow which fells him. But when I observe my chief slaying a man in sudden caprice, or carrying off a new wife, I see no such conspicuous cause at work. The warmth always follows the fire, but I don't know anything which would always make my chief act in this particular way." In other words, such a primitive reasoner would arrive at a dim perception of the contrast between voluntary actions and other events in respect to the simplicity and clearness of their causal dependence. That the early mind did thus remark the supreme complexity and subtlety of voluntary actions, viewed

* A very good *résumé* of the historical development of the doctrine may be found in Professor Bain's *Compendium of Mental and Moral Science*, Vol. I., chap. xi.

as effects, may be conjectured from the fact that long after the crude fetishism which looks on every material object as animate had been exploded, those regions of phenomena which betray least obviously the determining action of extraneous influences, as the changes of wind and weather, continued to be viewed as the peculiar domain of super-human wills. No doubt other influences supported these polytheistic ideas, yet the similarity of the processes to voluntary conduct, in the apparent absence of determining conditions, served to give colour to the supposition. The *ταὐτόματον* of the Greek philosophers, which was retained even by Aristotle, seems to have been the expression for all this apparently spontaneous activity. And as objective phenomena only, viewed side by side with physical actions, volitions certainly might seem at that early stage of inquiry a class *sui generis*. For it must be remembered that just then nascent thought was mainly directed to the objective world. The human mind, to employ a familiar formula from German philosophy, had not yet begun to be conscious of itself as something distinct from the objective world, and giving to the latter its meaning.* Consequently, men's intellects were unequal to the supposition of a uniform sequence between the objective phenomena, visible actions, and the subjective phenomena, volitional forces or motives. At the same time, we shall presently see that, even at this point, men's minds did connect open actions with something internal and quasi-spiritual, only the peculiarities here spoken of led them to distinguish this relation from that of ordinary causation.

The second distinguishing peculiarity in the external aspects of voluntary actions, which one may reasonably suppose the awakening thought of mankind to have remarked, is their high degree of variability. This property, though closely connected with that of apparent independence, is not identical with it. While the latter arises from the hidden and inaccessible nature of the causes at work, the former is due to their great number and complexity. And though the complexity of the conditions is often the reason of the non-observation of them, it is not always so; for a phenomenon, say some morbid condition of an organ, may have a very simple cause, only this may be hidden away in the recesses of the living tissues. In the case of voluntary actions, the long-valid supposition

* "Der unterscheidende Charakter des griechischen Wesens liegt eben hierin, in jener ungebrochenen Einheit des Geistigen und des Natürlichen." Zeller, *Philosophie der Griechen, Einleitung*, p. 96.

that there is no ascertainable cause for rationally adopted conduct was supported by the remoteness and inaccessibility of the causes, mental and organic, as well as by their great number and variability. Thus, our early investigator might say: "Not only do I fail to see what makes my chief act thus and thus, but I notice that he never acts twice in precisely the same way. Yesterday he resolved to wage war with an adjacent tribe: to-day, he is for peace. Even when we know he has reasons of his own, and has reflected long on what he is going to do, none of us can tell how it is to issue. A new thought, some extra word of counsel, a fresh inspiration by dream, will completely reverse his line of action." In contrast to the apparently equally spontaneous motions of air and water, to the progressive changes in the growth of plants and animals, and to the blind undeviating instincts of the brutes, the bodily movements executed with conscious resolve could hardly fail to appear to such simple intelligence as having something of a magical irregularity; whereas other seemingly self-moving objects would rather present themselves as inflexible, and bound by some inherent necessity. When this distinction was recognised, the actions of the lower animals would probably have been transferred to the opposite category and contrasted with the variable, easily modifiable activity of thinking man. Aristotle recognised these movements, along with others, supposed to have their originating force in themselves, for example, those of air and fire, under the name τὰ ἀπὸ φύσεως, and contrasted them with πρᾶξις, or moral action. It may be presumed, moreover, that within the domain of human action this contrast was felt to exist between the more inflexible habits or passionate outbursts and the calmer exercises of volition. The disappearance of the element of variety—which always accompanies the play of thought—in all the more sudden and automatic actions of men, must, one thinks, have impressed these first observers as a striking feature. They would be discriminated, as having less of spontaneity and of mysterious variability, from the higher voluntary acts, and naturally assimilated, on this account, to the involuntary or more rigid and invariable class of movements. Accordingly, one finds Plato saying, that a man carried away by the impetuosity of θυμός was really acting involuntarily, and possessed by a kind of madness.* This notion was favoured, too, by the other contrast, just considered,

* *Vide Timæus*, p. 86, c—d. The well-known saying, κακὸς μὲν γὰρ ἑκὼν οὐδείς, implies this principle, for κακία was included under μανία or fury.

between plainly conditioned and seemingly unconditioned movements; and this fact illustrates how closely the two attributes, a high degree of independence and of variability, unite and blend in giving the first significance to the conception of human volition. For passionate action is commonly owing to a present and conspicuous external cause of which it is the immediate consequent; and, unlike deliberate movements, it seems to have a bodily rather than a mental antecedent, the emotional excitement being generally accompanied by violent and uncontrollable physical manifestations.

Now it is to be noticed that in this purely objective mode of distinguishing voluntary actions from other natural movements, there would have been a strong tendency to introduce and render prominent the contrast of free and externally coerced human actions. For when a man's will is thus put under a restraint, his movements are assimilated very closely to the physical processes already spoken of. First of all, they are clearly the effects of a cause, the cause being the conspicuous pressure put upon the slave. Secondly, they exhibit just that narrow and rigid uniformity which characterizes the lower phenomena referred to. A captive chained and fastened to a fixed spot is incapable of that striking variety of movement which one may conceive as fitted to impress and dazzle the early mind. All his movements display a dull sameness, being just the few which his captor happens to demand of him. Hence it seems very probable that men habitually spoke of such forced actions in connection with the limited and invariable phenomena lying outside the will, such as the brute instincts, the movements of bodies under pressure, and so on. As nothing so clearly interrupts the characteristic spontaneity and mysterious variability of the will as external restraint, so one may conceive that associations of coercion would pass over to all the clearly determined movements of the inorganic world.

The full significance, however, of the early conceptions of voluntary action will not be clear to us until we realize something of the primitive modes of conceiving the nature of animate life and the mind itself. That is to say, one must seek to reconstruct the first obscure ideas men entertained of the subjective and conscious side of volition. There seems to be no ground for assuming that men could ever have regarded their own actions simply as objective facts, having no connection with the conscious and prompting soul within. Mr. Tylor, in his interesting account of animism, has made us conversant with the early conceptions of spirit. To the lower races, he

says, the idea of a personal soul or spirit is that of a thin unsubstantial human image, in its nature a sort of vapour, film, or shadow, the cause of life and thought in the individual it animates.* When this conception appears, people speak, much as children do among us, of a second nature within originating all their voluntary actions, and so seem to satisfy the early developed craving for a cause or source of things. It seems indeed very probable that, even if Mr. Tylor's ingenious explanation of the genesis of this crude conception be correct, still the early developed curiosity of mankind in seeking for a cause for every obvious phenomenon helped to confirm and sustain the idea of an indwelling substance capable of producing all the manifold actions of human life. Mr. Tylor shows, too, how among uncivilized nations this idea of soul is extended to the lower animals, to plants, and even to inanimate objects. When this universal fetishism prevails, the mind is inclined to look on every movement in the organic or inorganic world as the product of soul. Conscious actions, instinctive movements, and others in inanimate nature, which spring apparently from no outer influence, are said to be prompted by the indwelling soul of the individual animal or object. When, on the other hand, men, brutes, or inanimate objects act on one another, as when a tyrant coerces a slave, a warrior brandishes his weapon, an arrow kills the prey, and so on, it is supposed that the soul of the one object acts on that of the other.

Of course this very crude fetishism must have undergone many modifications before men began to think distinctly about voluntary action. There is reason to believe, however, that the modes of thought thus engendered were transmitted to the first inquirers into the nature of the will. Thus, after men had ceased to look on plants, dead stocks, and weapons, as tenanted by a filmy material substance, they still supposed the bodies of men and the higher animals to be so endowed. One may conceive that after these early learners had arrived at the purely objective distinctions, roughly shadowed forth in the preceding paragraphs, between the spontaneous and complex actions of a conscious and free man or other intelligent animal, and the limited and dependent movements of lower nature, including even the effects of coercion on the will, they imported into this antithesis the surviving conception of an internal spirit. Thus they would come to speak of intelligent and deliberate actions as originating in the rational soul. In contrast to these, inflexible habits and sudden

* *Primitive Culture*, Vol. I., p. 387.

effects of passion would be attributed, not to this rational principle, but, like the instincts of the lower animals, to some lower "vegetal soul" incapable of thought and choice. Indeed passionate acts were probably referred to some extraneous influence, analogous to coercion, as may still be seen in such expressions as "to be mastered by passion," "to be carried away by rage," and so on. Thus all intelligent action was traced to a mysterious spiritual substance—which afterwards came to be conceived as a congeries of faculties, of which the will was one—invested with all the dignified prerogatives of freedom, mysterious superiority to prediction, and infinite variety of selection. And just because this highly endowed soul was regarded as the direct cause of conscious actions, it was impossible to think of any particular action as the result of definite motives.

The survival of this primitive mode of thought may be frequently traced in Greek speculations on the nature of material movements and the constitution of the human will. Even with Aristotle, the mode of conceiving nature, the division of movements into those which are self-caused or spontaneous, and those which are produced by extraneous objects, the notions of substance, etc., appear in places to be tinctured with the ancient conception of a second shadowy object residing within the visible object and constituting its soul or essence. Aristotle does not directly confront the speculative question of moral freedom, and his theory of volition in the Third Book of the *Nicomachean Ethics* is an excellent contribution to the science of the subject. Yet though his mode of investigation did not lead him to construct a distinct idea of an indeterminate will, his curious conception of cause, on the other hand, did not permit him to regard rational action as caused by motives, in the phenomenal sense of causation. Indeed, his view of the soul as the ἐντελέχεια of the body, its formal and final cause, and at the same time its principle of motion (*De Anima* II., 1), and of the νοῦς ποιητικός as formal principle (*ibid.* III., 4 and 5), appears to contain implicitly the great leading idea of all modern doctrines of free-will: namely, the existence of a spiritual substance, power, or faculty within the body, which is the occult source of action as of thought. And this idea is nothing but a highly refined transformation into a metaphysical conception of the primitive fancy respecting a second corporeal substance.*

* Mr. Bain has traced out this affinity of the metaphysical and the primitive conception of the soul in the interesting historical *résumé* which closes his work, *Mind and Body*.

Such was probably the common view of the will and voluntary action which existed in more or less distinct shape before speculation on the nature of the human mind began to assume stability and a definite progressiveness. One great motive force to this speculation was the theological interest. The principal reason for noticing here the theological aspect of the controversy on freedom, so far as it can be separated from the metaphysical, is to show how it confirms the above hypothesis respecting the first crude conceptions of voluntary action. Upon the acceptance of a religious system, teaching that a supreme being controls the destinies of mankind, there were three supposable ways in which this divine government could be viewed. Either it would be assimilated to the influence one man exerts over another through his reason and will by argument or inducement; or it would be regarded as analogous to the coercive powers exerted by human rulers over their subjects; or, finally, it might be conceived as a perfect prescience of all events, and a deliberate arrangement of human conditions so as to bring about a given effect, men being constituted nevertheless to deliberate and choose within those conditions. But, in fact, we see that the two parties in this theological dispute inclined constantly to either the first or the second view, the last not yet presenting itself as a possible solution. Whereas the Christian apologists of the second century (Justin Martyr, Tertullian, etc.) tended to lay stress upon the freedom of choice left to man by the Deity, and the adaptation of the Christian religion to this state of things, their opponents of the next centuries (St. Augustine, Aquinas, etc.), who insisted on the dogma of predestination, continually spoke of the divine decrees as certain irresistible laws, and so brought the divine rule into closest conformity with the coercive powers exercisable by human governors over their subjects. The reason of this may easily be found, one thinks, in the pre-existing conceptions of volition. Up to this time no clear idea of invariable sequence between motive and act had been constructed, and consequently the theologians were unable to conceive foreknowledge except as a case of external coercion. That is to say, the ideas of individual choice and of pre-arrangement by some supremely intelligent being could not yet coalesce with any degree of stability; and in point of fact even modern Calvinists will often be found drifting into language borrowed from law and coercion. And while many accepted the legal view in its grossest form, the more refined and humane, appalled at the consequences of making the divine Being the constrainer of man's sinful impulses, resorted

to the only alternative left them—the practical exclusion of al divine control by the mystery of its coexistence with a perfectly spontaneous self-determining will. It was reserved for later writers, amongst whom Jonathan Edwards stands conspicuous, to reconcile foreknowledge and human volition freed from external coercion, by the simple expedient of recognising human choice itself as a matter of certainty and of prediction to an omniscient being.*

But the modes of conceiving the will were not destined to remain for ever in this vague condition. Partly through the amount of attention concentrated on the problem in the theological dispute, but chiefly through the progress of science towards a growing apprehension of nature's uniformity, and a clearer conception of mental phenomena, the definite idea that human volitions conform to the great Law of Causation became gradually shaped and submitted for examination. Henceforth if the theory were challenged and disputed, it could only be by means of some clearer conception of an undetermined will than those which had heretofore sufficed. Accordingly, one lights on a new and more scientific form of the hypothesis of free-will, which, emerging out of the old and imperfectly apprehended theory, more distinctly recognised the real issue, and sought to base itself on facts relevant to that issue. We may now proceed to consider the elements entering into this new belief, the doctrine of an undetermined will, properly so-called, which has asserted itself with more or less distinctness for several centuries, and is still held, after varying degrees of independent inquiry and judgment, by a large number of intelligent men.†

The first thing to be noted in this transformed doctrine is that its supporters do not claim the alleged indeterminateness so much

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* Sir H. Maine has noticed in his *Ancient Law*, chap. ix. p. 354, that it was the legal manner of viewing actions, so prevalent among the Romans and their successors in the West, which gave rise to the difficulty of free-will; and that no Greek-speaking people, among whom the study of law was comparatively neglected, was ever troubled by the question. These remarks are in entire accordance with the above theory of the genesis of the theological dogma. For it was out of their legal discipline and knowledge that the necessitarians took those ideas of coercion and extraneous necessity which they constantly imported into their representations of divine government.

† The first writer who seems to have distinctly argued the question of determinism was the schoolman Buridan (14th century). The conception of determinism was still more clearly elaborated by Bernardino Ochino two centuries later. See an article entitled *The Determinist Theory of Volition* in the *Westminster Review* for October, 1873.

for voluntary actions, as for a thing which was looked upon as distinct from and superior to these, namely, the will. They appear to have had present to their minds not concrete actions, either past or future, but the whole field of voluntary action regarded as one existence. To understand this, it should be remembered that the mind has the power of abstracting from a given class of phenomena some element common to them all, leaving out of sight the variable elements with which it is from time to time associated. This capacity, which lies at the foundation of all reasoning and science, has its own peculiar dangers, which have been pointed out by some of the ablest thinkers. There is traceable in the speculations of all times a tendency, after the formation of such abstract conceptions, to look back on the objective facts through the refracting medium of their mental correlates, so as to imagine that these correspond to independent existences instead of to phases of existence always found in conjunction with other phases. This disposition to objectify mere ideas has been a fruitful source of philosophic delusions.* It led the earlier Greek speculators to their curious reasonings concerning τὸ ἕν and to similar projections of pure ideas into the sphere of external existence, and it was the underlying motive to the whole Platonic system of objective Universals. And the same tendency appears to have had much to do with the history of the belief now considered. The contrast between voluntary and all other action is, as it has been shown, of a nature to have very early impressed itself on men's attention. It became necessary to have a word for expressing this seemingly exceptional class of phenomena, and the term "to will" (ἐθελειν, velle, wollen, etc.) was framed, agreeably to the view that voluntary action is the product of autonomous spiritual substances. Now this term, used at first by men for the common purposes of life and confined to single acts of volition, must always have conveyed distinctly the idea of a superior motive, although, as has been suggested, such predominance of inducement was never viewed as a cause of the action. A man was said to will something in proportion as he rationally chose the best or the seemingly best of two or more possible courses. When, however, speculation began to touch the phenomena of volition, it was asked what all the actions to which the term "to will" is applicable had in common. But as often happens in first rough generalizations and abstractions, a part

* See especially Mr. Mill's *Logic*, book v., chap. iii., § 4, *Fallacies of Simple Inspection*.

only of the invariable elements were embodied in the abstract idea. Although more attentive consideration might have shown that in all volition one condition is a superior motive in the direction of the resulting action, yet the ingredient of the phenomenon which most interested the observer was the mind's capacity to entertain different motives, to pause, deliberate, and choose upon the presentation of a variety of open courses. This intervention of deliberative consciousness appeared most strikingly to mark off voluntary action from all other, and easily became the connotation of the name. And thus we may understand how voluntary action as a whole, now looked back upon through this abstract idea, came to mean simply the indeterminate, unpredictable part of the process. This notion of volition, too, was framed agreeably to the ancient modes of thought already spoken of. Instead of voluntary actions being referred to an indwelling soul as their immediate cause, they were now associated with an occult faculty, the will, which, like the earlier conception, was invested with all the dignified accompaniments of boundless variety of selection, and impenetrable mystery. This faculty, further, was supposed to inhere in the spiritual substance underlying all the phenomena of mind. At the same time its peculiar prerogatives appear to have been regarded as its own, and not as derived from its sustaining substratum.*

By this new idea the obscuration of the real nature of voluntary action was completed. It served to confirm the supposition that there existed something in the mind distinct from the phenomena of volition, namely, an unknown entity or power, capable of originating at any moment an indefinite number of particular volitions bearing no uniform and certain relations to attendant circumstances. To this power men ascribed all such effects as deliberating, weighing, and choosing, while they overlooked the less impressive fact that to a given individual at a given time and in given circumstances, some motive or set of motives will certainly outweigh all others. Thus, instead of conceiving the will, as modern

* The word "will" in its present common meaning of a mental faculty, a distinct part of the mind, seems to be of comparatively modern origin. The Greek and Latin words (*θέλησις, voluntas*) which were of late formation, were generally used to denote the expression of the result of particular states of deliberation—the course of action willed or chosen, the avowed choice.—Cicero, *Tusc.* 4, 6, 10. It is scarcely necessary to say that, like the Greek and Latin substantives, both our own "will" and the *Wille* of the German are of later origin than the verbs, inasmuch as they are derived from them.

science helps us to do, merely as an abstraction, a sort of imaginary point where a large number of forces may at any given time through the mechanism of thought compound their action, they seem to have pictured it as a mysterious spiritual being, endowed with an infinite variety of latent forces, and discharging these in some utterly irregular and unaccountable way.

A brief study of the more modern writers who have supported the doctrine of undetermined volition, can hardly fail to show that this abstract conception of an occult volitional power, has been the chief contributor to the vitality of the theory. Spinoza recognised that it was the universal will, abstracted from particular volitions, which was supposed to be unconditioned.* But no one appears to have done better service in pointing out this source of the delusion than Mr. Herbert Spencer. He says—"*Considered as an internal perception, the illusion consists in supposing that at each moment the* ego *is something more than the aggregate of feelings and ideas, actual and nascent, which then exists. A man who, after being subject to an impulse consisting of a group of psychical states, real and ideal, performs a certain action, usually asserts that he determined to perform the action; and by speaking of his conscious self as having been something separate from the group of psychical states constituting the impulse, is led into the error of supposing that it was not the impulse alone which determined the action.*"†

So much may perhaps suffice as an account of the chief intellectual ingredients which have made up the conception of an indeterminate will. Early and crude distinctions of the human mind, associations derived from the impressive facts of external coercion, the influences of a transformed animism, and the tyranny practised on the intellect by its own abstractions—these are among the principal intellectual roots of this curious growth. We may now turn to the no less interesting group of emotional influences which appear to have sustained the belief.

Now it is noticeable that writers in favour of uncaused volitions are tacitly referring for the most part to unrealized, in other words,

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* Ostendimus enim voluntatem ens esse universale sive ideam, qua omnes singulares volitiones, hoc est, id quod iis omnibus commune est, explicamus. Quum itaque hanc omnium volitionum communem sive universalem ideam facultatem esse credant, minime mirum, si hanc facultatem ultra limites intellectus in infinitum se extendere dicant.—*Ethica*, pars ii., schol. to prop. xlix.

† *Principles of Psychology*, Vol. I., pp. 500, 501. This whole passage on the free-will notion is full of suggestion.

to future actions. The sense of freedom, which an interrogation of personal consciousness is said by the school of Hamilton to afford, is drawn, not so much from a review of past volitions, as from the anticipation of future ones. Looking at past actions, whether our own or those of others, we can have no great doubt as to the presence of determining motives, at least in the majority of cases. The doubt arises when one looks onward into the future. The partial explanation of this fact is probably to be found in what has been said about the abstract and easily misleading nature of the current ideas respecting the will. Although actual cases of voluntary action manifest the presence of some determining motive, it could not have been predicted in many particular instances what would be that ruling consideration. The nature of voluntary action is so complex, that when it is but a little removed from the present there is a difficulty—except in a few classes of action where some supreme influence, such as conscience, can be counted on as constant—in precalculating which of all the elements entering into the process will prevail. And to the majority of minds inability to predict seems a mark of the absence of objective uniformity: uncertainty in its proper sense, that is, doubt arising from ignorance, comes to mean want of a uniform order in the phenomena themselves. But the mere uncertainty attending future volitions does not seem an adequate explanation of this intense belief in their lawless spontaneity. It is probable that this idea is a source of pleasure to the human mind. Men like to look upon the wide region of the future as something wholly undetermined. The very love of the vague and undefined, which appeals to the emotions of wonder and affords scope for imagination, serves to make any new discovery of uniformity in phenomena unpalatable and obnoxious. We may see this, too, in many other departments of inquiry. To many minds the progress of astronomical discovery is a shock and a disappointment. They like to gaze up at the unclouded nocturnal heavens, and to conceive that the bright spheres are wild free spirits wandering whithersoever their own unfettered will carries them. And they are apt to regard in much the same light many other seemingly spontaneous movements of nature, such as the growth of flowers, the formation of dew, and the changeful play of the winds. Now, whatever is pleasing to the mind is kept before it by the attraction of feeling; and thus a strong opposing force is presented to newly discovered truths.

Besides this general emotional tendency to indulge ideas of

vagueness, the popular conception of future volitions illustrates other influences of feeling tending no less to support the common belief in free-will. Of these one of the most curious seems to be that afforded by the mere force of a robust activity. It has been remarked in the preceding essay, that out of the nervous energy stored up in the organism, there grows, prior to all motive, a strong tendency to action of all kinds; and this disposition serves, as was there shown, to influence the ideas and expectations. A vigorous lad will uniformly dwell on all the bright possibilities of movement, all the pleasures to be derived from wide and various action, overlooking on the other hand all the risks of failure. Very nearly allied to this idea, is the wild supposition that one's future actions will be boundless, unlimited by any such conditions, external or internal, as a careful study of the past would certainly disclose. In other words, the thirst for action, by generating extravagant ideas of our own active powers, easily helps to sustain an inexact notion of volition as a whole, investing it with attributes of vagueness and boundlessness. This effect may be illustrated by the case of a boy who is very zealous for some new plan, and who has to be reminded that to-morrow he will not care to finish what he is now so eager to begin. And it may reasonably be supposed that most persons feel something of this influence in picturing to themselves the unknown region of action which lies before them.

The proper emotional forces seem to have had still greater influence than eagerness for unlimited action in sustaining the belief now considered. Any mode of feeling is very apt to take full possession of the mind for a certain period, colouring all the ideas and beliefs of the time. Now, in anticipating the future of our lives, of which so little can safely be predicted, there is clearly ample room for this play of the stronger and more habitually recurring feelings. First of all, it is evident that a feeling of pride and a sense of power would naturally lead one to regard his future actions as absolutely undetermined. People are a little apt to resent being too easily understood even by their friends, and like to imagine that their future action is a perfect mystery to their neighbours. And thus the idea that future actions are already fixed by the ever unfolding series of causes, easily appears degrading to the majority of minds. It may well seem unworthy to suppose that such trivial influences have had any effect in sustaining so speculative a doctrine; yet a careful attention to its modes of advocacy can leave the inquirer

in little doubt on the subject. The attributes of fixity and certainty have been looked on by metaphysicians themselves as destructive of the supreme dignity of the human will. It is curious that it seems never to occur to these writers that their past actions, the reasons for which they would probably always confess themselves able to discover, are perfect illustrations of this fixity of relations, and so ought, on this supposition, to be a constant source of humiliation.

Once more, any form of emotion which frequently stimulates voluntary conduct, is exceedingly likely to lend a false colouring to future action. It should be remembered that in looking onward to unrealized actions we are not making them a subject of scientific interest merely, as when an astronomer, for example, anticipates any sidereal phenomenon. Our volitions are objects not so much for the speculative as for the practical reason: they interest us less as facts susceptible of scientific study and arrangement, than as the grand means of attaining the desired ends of life. A brief experience of life shows us that happiness and well-being are quite as conditional upon our own conduct as upon the set of circumstances into which we may happen to be born. For not only are human actions the direct means of securing the temporary ends of life, they have, even when they do not directly modify some permanent circumstance in a person's surroundings, a reflex influence upon his moral nature. And so it happens that a person in anticipating his future field of action, since he is unable, as already seen, to predict what any but the immediately adjacent segments of time will evolve, will be exceedingly likely to magnify unduly the efficiency of his own impulses. Thus he will be inclined, when filling up in imagination a variety of possible futures, not only to construct sets of circumstances which the common conditions of life scarcely warrant him in expecting, but also to conceive himself as inspired by the ardour of certain lofty purposes more powerfully and exclusively than those same life-conditions commonly if ever, allow us to witness.* The future career of a man, to whom the

* It might seem that this tendency would only account for the belief in extravagant and unnatural achievement of future action owing to combinations of motive influence far more energetic than any yet experienced. It does not appear to explain the expectation of future action as undetermined by any motives. The individual in these ideal endeavours still imagines himself swayed by emotions similar in kind to those which have often stimulated him to actions. But, in fact, this tendency to believe in the extraordinary intensity and exclusive influence of certain feelings in the future, very soon leads its

past has been a tedious conflict of desires, becomes by touches of imagination at successive moments of anticipation idealized, sketched out vaguely in grand proportions, and tinted with warmest colours. The supreme aims of life, those that occupy most thought, that revert in greatest power to the mind when removed from immediate excitation—some life-dream of youth, perhaps, often obscured by the shadow of the many pressing objects of later years—are apt thus to make use of the future as a canvas on which they may paint pleasing and ravishing pictures. The ethical, æsthetic, and religious emotions most frequently induce this kind of reverie. This ideal mode of satisfaction often solaces men, as has been well said, for the unworthiness of their actual endeavours. The common supposition that the determinist's theory is destructive of all that is dignified in human nature may not improbably be referred to this latent source of disbelief. Although the doctrine has, properly conceived, nothing of the depressing effects which have so often been attributed to it, it does certainly tend to the restraining of unbounded ideal longings within proportions commensurate with the real facts of life. While all science does this to some degree, that of the human mind does so in a special and eminent degree; and in this way probably much of the intense opposition offered to the doctrine of uniformity in volitions is to be accounted for.

Out of these and perhaps other shades of emotional impulse there grows a habit of imagining all kinds of future activity without any recognition of the limits imposed by the actual order of things. It is possible for us, at any moment of enthusiasm or of proud complacency, to conceive ourselves as accomplishing extraordinary deeds, involving the highest thinkable degrees of active force as well as of emotional incentive. And by thus vividly imagining these possible futures we seem to transform them into momentary realities. For example, I can so intensely imagine myself achieving some grand moral purpose that I am ready to believe myself actually entering on the lofty endeavour at the present moment. As we have seen in the past essay, all intense conceptions tend thus to simulate the form of present realities. And in this way feeling, calling up ideas in a different order from that of experience, com-

subject to the conception of indeterminateness generally. First of all, it is only another step in the direction of deviation of belief from actual experience; and secondly, the idea of an exclusive dominion of certain feelings is very difficult to be sustained, and easily becomes merged in the larger idea of universal indeterminateness.

pletely transforms our conceptions of future possibility. Not only so, but even when we look back regretfully on some unalterable actions in our past life, we are apt in imagination to recolour that past, giving it the moral tint which our present wishes suggest. And by vividly imagining to ourselves the aspect it would wear if it could be so transmuted, we easily lapse into the illusion that it might have been other than it was without the interference of any new impulse.

So large a space has been devoted to these two great roots of the belief in free-will, the intellectual and the emotional, because they are in their nature least allied to the objective facts with which the question directly concerns itself, and consequently have had but little prominence given to them in the body of the dispute. They are too by far the most interesting among the various causes of the belief; for they illustrate certain tendencies of the human mind which seem to manifest themselves universally in connection with all branches of inquiry. And the department of human volitions here considered appears to afford, from its importance and from the intensity of the speculative activity bestowed upon it, one of the best illustrations—a sort of "instantia prærogativa"—of these universal tendencies.

It must not be thought, however, that the belief in free-will is only nourished by these two great streams of influence. As before said, there is much to encourage misconception in the peculiar character of the phenomena themselves. Even in the case of modern supporters of the doctrine, one may frequently trace the effects of the ambiguities arising from those first crude conceptions of voluntary action which have been so fully dwelt on at the commencement of this essay. In proof of this the reader need only refer to those repeated transitions from the conception of indeterminateness to that of absence of restraint which mark the whole course of the discussion. And there are other intricacies in the phenomena which have doubtless contributed much to the acceptance and retention of the belief, especially by less acute metaphysicians. To these we may now turn; yet if our notice of them seems rather scanty, this may be attributed to the fact that they have naturally had a fuller treatment at the hands of writers whose direct intention it was to support and defend the doctrine. These difficulties, springing from the complexity of the higher voluntary action, would not, it may be presumed, of themselves have begotten the idea of an undetermined will, but they serve to give

apparent arguments to those who, through the sway of the influences already described, are disposed to entertain it.

First of all, then, it is evident that human actions are among the most complex of phenomena, produced often by the joint operation of an indefinite number of forces. This feature, as has been seen, must have struck the first undisciplined inquirers into the subject, and it appears to give a certain plausibility to the doctrine of free-will still maintained. Owing to this fact of complexity we are rarely able to predict an individual's actions in any remote period; and we are often unable to account for all the concurring and opposing forces in conduct actually witnessed by us. To any one, accordingly, who does not know the *à priori* grounds of belief in causality as applying to human volitions, and has not studied the actions of masses where the variable elements do not interfere with the observation of invariable laws, there seems much that contradicts the doctrine. And when once the mind is already inclined, from other influences, to reject the belief in uniformity, anything in the facts seeming to support this view will naturally assume exaggerated proportions.

Again, the fact that the conduct of individuals varies, and that similar situations in life do not produce similar actions even in the same individual, seems at first sight to lend support to this belief. Many who hear of the doctrine of causality in human volitions suppose it to mean that a given set of external circumstances, offering certain prospects and inducements to an individual, must always lead to the same result. They do not see that causes may act just as strictly in order through the character of the individual himself, so as to alter its degree of susceptibility to different kinds of external solicitation.* And they forget that even when no permanent change of character has been effected temporary variations in the mental tone, consequent often upon variable physical conditions, as exhaustion or recovery of health, will considerably modify the volitional effect of any given prospect in the same individual mind.

Not only is the number of motives entering into a voluntary action often such as to exclude precalculation, but some springs of conduct have a special subtlety and complexity which render them peculiarly liable to be unrecognised as proper volitional forces. In

* Mr. Mill has very ably set this part of the argument in its true light, showing that though the fact disproves necessity or irresistible sequence unsusceptible of counteraction or modification, it does not touch the question of causality.—*Logic*, book vi., chap. ii., § 8.

proportion as any present motive is simple in its composition, and immediate in its realization, it stands prominently forth as an inducement distinct from the rest of one's mental structure, and seems to invite observation. The analogy between motives and physical forces is probably seen by all to apply in this case. Thus, for example, the attraction of a glowing fire to a man entering a room from a cold exterior atmosphere is easily recognised by the least philosophical as the result of a proper volitional force.*

When, however, the ends to be attained are of a highly composite character, requiring to be represented by an elaborate intellectual process, and consisting largely of emotional as distinguished from sensuous gratifications, they do not thus stand out in bold relief. As distinguished from immediately pressing and simple ends, they may be said to involve a good deal of the individual's collective mind, namely, those feelings and thoughts which enter prominently into his own and his friends' conception of his intellectual and moral nature. Of this complex character is much of the conduct regulated by enlarged prudence and thoughtful conscientiousness.† And just because the determining influences are here so subtle and impalpable, people readily come to look upon the action as the result, not of motives, but of the *ego*, the collective individual itself, conceived as a substance underlying all particular mental phenomena; or, allowing that actions are directly prompted by motives, they maintain that the motives themselves are first of all moulded and fixed by the conscious reflecting *ego*.

It is a necessary consequence of what has been said, more particularly in the first part of this essay, that many forms of expression should have arisen in conformity with primitive and unscientific modes of viewing volitional phenomena. And these distinctions preserved in our ordinary speech seem still to give a colour of reality to the doctrine we are considering. The bulk of our language

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* That men have actually regarded such actions as determined seems shown by those forms of speech which assimilate them to the effects of external coercion. "I was forced to flee" (from an impending danger), "I could not help seizing it" (*e.g.*, some tempting prize), are examples of this.

† A curious and interesting instance of such semi-latent volitional stimulation is seen in many cases of actions done in defiance of the threat of social disapproval from apparently no other motive than a love of individuality. The various elements entering into this impulse, such as the pleasures of unfettered spontaneity, the gratification of the emotions of power and superiority, of self-complacency, and of the ridiculous—perhaps, too, the delights of sympathy with an honoured few—give it a very subtle character.

was built up long before science had an existence. The forms of speech were designed accordingly to express only the more obvious distinctions and agreements in phenomena. And by the subsequent progress of knowledge much came to be distinguished which was at first united, and *vice versâ*. Besides the misleading expressions which seem to owe their origin to erroneous views of things, there are a large number which represent partial and inadequate aspects of objects, such as are required in every day conversation, and which, when taken apart from other expressions supplementary to them, easily lead to error. Both these forms of speech being still retained for common and extra-scientific purposes, another apparent basis is supplied for the free-will theory.

Thus, for example, in ordinary life men do not always need to specify with scientific fulness or exactness the conditions necessary to the production of a phenomenon. As Mr. Mill has well pointed out, they leave many to be understood, and particularize sometimes the most prominent, at other times the one least likely to be presupposed, most frequently perhaps the one of greatest interest to themselves and their hearers. Conformably with this habit men seem to have always directly attributed the interesting and important phenomena of human action to some personality, this custom having been supported as well by the primitive conception of indwelling souls. The reason of this seems to be that the first and most important thing to be known in the case of any action which is a subject of inquiry, is, to whom we are to ascribe it. Special reasons may sometimes exist for inquiring into the precise circumstances and feelings which brought about the action; but the fact which will certainly be of interest and practical value is that it was done by A and not by B or C. Hence the retention of the convenient forms of speech by which we predicate all voluntary actions of individuals as subjects. But this interposition of a personality in every case of human conduct, though most convenient for every-day purposes, easily leads to the supposition that the action, viewed as a phenomenon, is strictly the effect of the whole individual mind, or that the agent expressed by the subject of the verb is the adequate cause. This mode of thought seems to be specially countenanced by the forms of speech which ascribe to a person the act of choosing between contending motives. Such phrases are supposed to imply, not only that there exists quite apart from the processes of volitional stimulation some substantive *ego*, but that this *ego* has a perfect controlling power over these processes. In other words, people are

strengthened in the belief that if motives are the proximate cause of an action, the conscious deliberating subject is the cause of the motives.

While the popular belief is thus seen to be propped up by loose though convenient forms of speech, it must be conceded that this effect has been aggravated by the modes of expression often adopted on the other side. By many determinists voluntary action has been assimilated too closely to physical. The operation of motives is spoken of as something mechanical, in relation to which the collective mind is purely passive and unnecessary, if not absent. It is, perhaps, scarcely to be wondered at that consciousness is said to contradict this version of the theory. People know that in all deliberate action there is full and intense consciousness, and that this is of the very essence of willing. They can see that motives, so far from being extra-mental and self-acting forces, only exist by becoming objects of consciousness, and that instead of producing their effects in an automatic manner they have to be attentively considered, nicely appreciated, and exactly compared in all the higher achievements of will. Reid saw the inconsistency in his adversaries' mode of representation when he said that according to their view it would be impossible for a man to act out a plan of conduct, since there would be nothing but motives to contrive it.* It is only as the full complexity of the process is understood, and the elements of reflection comparison and hesitation duly recognised, that the determinist theory will be seen to cover the whole phenomenon.†

The habits of speech which serve to render prominent the collective mind as the source of an action, are not the only verbal sources of the difficulty. Other forms of language may well seem indirectly to countenance the prevailing notion of volition, by alluding to

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* "Motives, surely, have not understanding to conceive a plan, and intend its execution. We must, therefore, go back beyond motives to some intelligent being who had the power of arranging those motives, and applying them in their proper order and season, so as to bring about the end."—*The Active Powers*, essay iv., chap. viii., p. 623.

† Nevertheless, it should be added that even the most careful use of language is scarcely sufficient to prevent ambiguities here. To mention but one fact: the common mode of describing the action of motives, is derived from the analogy of external bodies. We are said to be acted on, stimulated by a motive, just as though this were something external to the mind, and the mind were wholly passive under its influence. It is exceedingly difficult with the ordinary associations of language to represent motives as parts of the mind itself, and bearing the impress of its various intellectual and emotional activities.

voluntary conduct without explicitly stating the fact of a dominant motive. This effect is best illustrated, perhaps, by the whole class of expressions which serve as the machinery of social restraint, namely, the customary forms of command, exhortation, and advice. Again and again the advocates of the free-will doctrine have pointed to this style of language as necessarily presupposing the truth of their theory. Kant took up this popular idea and gave it a metaphysical shape in his elaborate system, when he said that the indeterminateness of the Will as Noumenon is postulated by the Moral Law: "Du kannst denn du sollst." It is said that all the phraseology employed in connection with moral obligation such as "you ought," "you are responsible," "you know you are to blame," is meaningless, unless one assumes the existence of a will undetermined and capable of originating within itself at any given time the actions enjoined. The difficulty here arises from overlooking the fact that all this threat, suasion, and advice brought to bear upon us is really so much motive power itself. Such expressions are used not so much to convey an exact truth as to effect a practical result, that is, to influence the mind of the listener by appealing to his fear, his love of esteem, his affection and respect for the speaker, or finally, his own clouded love and reverence for a duty not enforced by social pressure. No doubt some of these forms of speech were first moulded by primitive and inexact habits of thought; but being roughly adapted to serve as the medium for conveying social pressure, whether deterrent or stimulative, they keep their place in daily life. And thus writers who have not gone deeply enough into the nature and meaning of these imperative forms of language, find, as they think, a popularly recognised basis for their favourite theory. It is much the same thing when a person, bent on reforming his own conduct, says "I can be different." He is really speaking thus under the influence of a new emotional force somehow or other called into play at the time.

Another and closely allied difficulty is frequently felt to exist in the customary mode of speaking about past actions. "What is the meaning," asks one, "of blaming me for an action which, according to your theory, could not then and there have been different?" In perfect truth blame has no meaning with respect to an unalterable past action, except indeed as the utterance of the primitive instinct of retaliation. But the past action is of immense interest as a key to present character and future conduct; and the true function of blame is to modify the former, and to help to determine the direction

of the latter. The retaliative part of blame, again, can no more be said to involve the possibility of the past conduct having been otherwise apart from the addition of some new force, than one's feeling of vexation and regret at the damage done by a thunder-storm to one's garden implies the belief that the storm was not the result of definite atmospheric conditions. The like holds true of a person's unprompted contritions. The supposition that in a state of remorse a man is tormenting himself about the accomplished result of orderly forces, seems to the unanalytic mind absurd. And in perfect exactness, one side of remorse, namely, a wish to have altered the unalterable past is irrational, and recognised as such. The deepest significance of remorse is the conflict, harsh and rending, between a present love of virtue and desire to act rightly, and a vivid memory of a past defection from this aim. The present dominant feeling, by a proper emotional law, causes the idea and recollection of something antagonistic to be the source of a keen misery; and this subjective penalty, as it has been well termed by Mr. Mill, forms the best corrective in the average moral nature, and, existing potentially as a deterring dread, is quite sufficient to ward off the thought of evil from the best minds. This process naturally assumes, as we have already seen, the shape of a vivid imagination of the past amended as the present impulse would suggest, and hence perhaps the momentary impulse to believe that the past action might have been otherwise.

But in the aspects of the belief just dealt with, one can scarcely avoid passing from a consideration of the complexities of the phenomena concerned to a correction of the error. Any fuller unravelling of these entangled problems must therefore be left as extraneous to our present purpose. It may suffice to have named these facilities for misapprehension in the observation of the phenomenon, and to have roughly suggested those supplementary considerations, the omission to notice which has been the source of the error. And this much seems to have been necessary as part of any exhaustive analysis of the subject.

And here, perhaps, we may look upon our proposed task as pretty well completed. No doubt there are other facts, besides those named, which may help to account for the belief in certain minds. For to those who have given but little thought to the subject, any slight misapprehension of volitional phenomena will be sufficient to confirm and sustain a belief taught them by the traditional unexamined philosophy which circulates through a large part of

society. What has been attempted here is to place in light the large and approximately general causes of the belief; those which do not originate in any particular circumstances of life or state of society, but in the laws of human nature itself and in the comparatively permanent phases of life. In the natural instincts of the human mind, in the order of development of human knowledge, in the special intricacy and subtlety of the phenomena considered, and finally in the ambiguities and inexactnesses of ordinary language, we have, it may be contended, an ample explanation of the origin and persistence, even to our own time, of this celebrated theory. It was inevitable that in attempting to analyse these causes I should seem at moments to assume the *rôle* of a party in the great dispute. For the point of view here adopted is that the belief has been generated, not by a careful observation and interpretation of experience, in which case it would offer but little attraction as a distinct psychological phenomenon, but by causes which are mainly subjective and have no necessary relation to its objective truth.

At the same time it may be remarked that if this attempt at psychological analysis has succeeded, the logical side of the question is necessarily affected. Any mode of explanation which shows how a given idea or theory may have arisen from the inherent laws of the mind itself, offers a new hypothesis which thenceforth competes with the supposition of a real objective origin. Unless we hold the mind to be unsusceptible of delusion, we shall be strongly induced to suspect the claims of a belief, confessedly exceptional in character, for which ample grounds seem to be discoverable in the vagaries of subjective consciousness.

# ON SOME ELEMENTS OF MORAL SELF-CULTURE.

It is probably easy for most persons to recognise the danger that lurks in a sentimental clinging to an idea or to a mechanical device which has been superseded by a better. But it appears to require a greater intellectual exertion to perceive the risks of a too hasty abandonment of decaying forms of thought and action. Yet this latter is clearly as much an instance of the disturbing effect of sentiment as the former. As soon as an old formula or usage is condemned as obsolete, there dashes against it, so to speak, a violent current of undiscerning emotion, by the force of which, not only the useless thing itself, but also every circumstance associated with it and suggestive of it, may easily be swept into the dark regions of oblivion. In this way really valuable elements of life are apt to be slighted and ridiculed from no other reason than that they have been the slaves of some effete giant, or, shall we say, the priests of some dethroned idol.

It may well be asked whether this danger does not beset the present process of casting aside so many of the religious ideas and appliances which advancing thought appears to render less and less valid. More particularly one may inquire how far much of what the Christian religion, at least, has impressed on its disciples, under the name of self-culture and the pursuit of spiritual good, has a meaning and value quite apart from the peculiar doctrines with which it has been associated. No doubt one needs to recognise in these spiritual activities valuable elements which appear inseparably bound up with the supernatural doctrine itself. For example, few would question the enlarging and dignifying effects on thought and emotion of such ideas as those of Eternity and Perfect Benevolence. Yet it is doubtful how far these characteristic influences can be laid claim to by any newer conceptions of the universe and human destiny. However this be, it may be enough for the present to fix our attention on those activities in the religious life

which clearly do not owe their value to any theoretic assumptions, but admit of transference to new orders of ideas.

Whatever ulterior meaning they may possess to professors of definite theological creeds, the practices of individual and private meditation, self-scrutiny, and even prayer itself, certainly have a very close bearing on human duty and the careful fulfilment of this life's best purposes. Other parts of the Christian *régime* are doubtless of great moral significance, more especially the restraining and stimulating forces supplied by the supervision and sympathetic intercourse of the religious society. But these influences, which it may prove difficult to retain in any newer religious system, are, unlike the secret self-discipline of the closet, a mode of external support. The inculcation of private exercises implies that a good and worthy life is something for the mature man to work out for himself, delving even to the deepest roots of conduct in the hidden thoughts and feelings. It is this aspect of the Christian life which possesses a supreme interest to every earnest student of human nature, and the precise value of which he will be most concerned to ascertain.

Perhaps it will be objected, *à priori*, to the proposed line of investigation, that all which goes by the name of religious exercise is but a sorry attempt to make good the deficiencies of moral adaptation to the conditions of life, and will cease to be of value as soon as a finer and more complete youthful training ensures this perfect correspondence of the inner and the outer. In reply it might be sufficient to say that this perfect harmony of desire and opportunity is but a tendency which is never actually realised; also that its attainment is to some extent a new problem to every individual, and can never be fully secured by the wisest system of instruction, proceeding, as it must, on approximate generalization. It is not only that there are so many impulsive and imperfectly disciplined natures of the Petrine type, to whom the faithful following of duty must ever be a conflict. It is because the calm clear vision of duty—buried, as it often is, amid heaps of specious rubbish—is only possible to the patiently searching eye; while if one tries to rise from a bare fulfilment of obligations to the conception of a noble spontaneous service, the selection of the best possible is so delicate a task that one's amplest reflection can only lead him to a very rough tentative.

It may not be amiss, moreover, to anticipate here a hasty revival of that objection to all self-training which is supposed to spring from a strictly scientific view of human conduct. The just conception that all parts of conduct are the proper effects of antecedents

can appear only to a very shallow understanding in any antagonism to the doctrine of self-instituted discipline. For one needs to remember that an exact appreciation of a whole human career is possible only *ab extra*, that is to say, to another mind, and that when once the right stand-point for this observation is taken up, all such internal processes as self-rebuke and self-stimulation no longer appear catastrophes in the order of causal development, but parts of its continuous movement a little more complicated and inaccessible than the rest.

In what, then, do the essential features of religious self-discipline appear to consist, and what amount of moral value do they possess? The fundamental moral idea of all of them seems to be that worthy living is not a matter of external action simply, but requires the preparatory processes of ordered thought and regulated emotion. The habit of private meditation on moral subjects and the spontaneous cultivation of love and reverence for these appear to point distinctly to the truth that the external, visible life has secret fountains within, and that these are susceptible of a conserving and purifying care. Other and theological conceptions are no doubt intricately interwoven with this one, yet scarcely to such a degree as to render impossible a separate consideration of them. Now this fundamental idea is a very distinct one, the precise value of which we ought to be able to determine. Whether our inner thoughts and aspirations have or have not a definite relation to external action, is surely a question for scientific investigation. It is evident too that our volitions are either able or unable appreciably to strengthen these inner forces; and if the first, it would seem that the precise nature and extent of this influence are ascertainable. A little patient inquiry may show that these moral ingredients of religious practices are abundantly justifiable on non-theological grounds; and that any one who is sincerely desirous of consecrating his life to human service, and who is aware that there are a myriad dulcet voices in the air luring him from the one worthy path, can appropriately accept from a Christian believer tuition in the exercises of his spiritual life.

In order to see whether this is so, we need to examine in detail the several mental processes which appear to compose the private observances of a devout man. They are roughly divisible into intellectual and emotional operations. By the former I understand all the activities of thought which enter into the contemplation of worthy ends, and into the examination of one's successive attain-

ments in relation to these ends; by the latter are meant the periodic exercises of those feelings which subserve moral progress, such as the love of goodness, and the aspirations after a pure and elevated life. The will, too, is always concerned in activities deliberately entered on for a worthy end; but its action presents itself less directly and obviously, and may conveniently be spoken of in connection with the two great forces of thought and feeling.

The precise operations of thought which subserve a virtuous life are an interesting study, and appear by no means to be a matter of self-evident simplicity. It is sufficiently manifest that a person tends to think about what he loves and desires. But does it follow that he will love and seek after what he is accustomed to think about, provided that it is really fitted to call forth these feelings? Most persons would answer yes, and, to a certain extent, rightly. Yet perhaps they could hardly explain adequately how this follows. In order to make the process clear, it should be remembered that living an excellent life, though conveniently spoken of as a single action, is in fact the sum of innumerable actions, all of which agree in their dominant motive while varying in respect to circumstances, complexity of motive, nature of alluring temptation, and so on. Now what one wants to know is the precise effect of meditation on the mind's habitual attitude amid these changing and transient influences. In what way, it may be asked, does an hour's reflection in the morning on the attractions of virtue tend, however slightly, to make it easier for a man to play a virtuous part in any set of circumstances that may arise in the hurry of the day?

If living worthily is simply the direction of all one's daily actions by one and the same supreme motive, the first desideratum appears to be the permanence of this motive as a vivid and distinct idea. In order that a man may act uprightly under all circumstances, it is needful for him to have the idea of uprightness as a constantly recurring factor of his intellectual consciousness. So far as high excellence is something more than the mechanical result of early habit, or the sum of the momenta communicated by the forces of youthful discipline; so far as it reposes on a basis of individual character and is not the passively received stamp of external coercion—so far does it involve, *inter alia*, a clear and abiding idea of life's supreme objects. Now a man's ideas are clearly placed to some extent under his own voluntary control. The most valuable product of school-training—so rarely attained however—is the ability and disposition constantly to examine in the strong light of concentrated attention

the ideas which happen to present themselves to the mind. And it might well be argued that our moral ideas, being among the most complex of our conceptions, are in most need of this illumination. I will assume for the present that the final conceptions of right and virtue admit of such a process. The intuitive theory, if we may take Plato as its imaginative exponent, strongly enforced deliberate meditation on the ἰδέα of the Just and of the Good; for, in his view, true cognition of all such attributes is the soul's recollection of a prenatal vision, obscured by the impressions of sense and only restorable in a feeble measure by means of extraordinary meditative effort. The theory, again, which deduces the value of moral good from its known relations to our present welfare, has always emphasised the necessity of patient thought in detecting the many and subtle ingredients of human well-being which blend in the moral end. On either supposition, then, it would appear to be a highly rational endeavour to give to our ideas of duty and moral excellence the greatest possible degree of lucidity. In what real moral excellence consists, wherein its paramount worth for our common nature lies, is certainly a subject which merits the most profound reflection; and nobody probably would doubt that the oftener one deliberately sets himself to scrutinize these things the clearer is his faculty of moral vision likely to become.

With this increased clearness in moral ideas there comes a higher degree of what has been called their recoverability. That is to say, they tend to recur frequently and forcibly as vivid recollections. For whatever may be our motive in thinking about a thing, the habit of doing so generates a certain persistence in the idea of that object. Frequently, indeed, this is anything but a desirable result. A man greatly occupied in the pursuit of wealth will be apt to find himself thoroughly unfitted for the repose of a holiday by the continual intrusion of his chosen mental images. One object of solitary confinement as a corrective of youthful delinquency is to give ample time for the growth of the simpler moral ideas, so that they may not fail henceforth to accompany the juvenile culprit as faithful monitors. Similarly it may be said that the oftener one purposely dwells on such subjects as human duty, the bond of a common destiny, and the possibilities of mutual relief and help, the more will one's mind become permanently informed with these ideas. Two most desirable results will flow from this. The thought of a deeper moral significance in life will confront, so to speak, a man's mind under all the varying circumstances of his career. Instead of recur-

ring in a few particular sets of circumstances as definitely associated with certain isolated actions or orders of action, it will grow less and less dependent on suggesting causes, and present itself by force of its own constantly refreshed vitality at every new juncture and under every new pressure of hasty impulse. And more than this, it will return with a certain force and stability, so that any antagonistic disposition of the moment will find it hard to extrude the new comer. The force of any idea may be measured not only by the facility with which it reverts to the mind, but also by the quantity of momentum with which it re-enters, and by reason of which it tends to possess itself of conscious attention to the exclusion of all rival thoughts. Thus it lies with us to some extent, not only to accelerate the return of moral ideas, but also to detain them when they arrive; and in this way we may reduce the chances of a wrong or unworthy action due either to the non-recurrence of the regulative idea, or to its fugitiveness and unimpressiveness when it recurs. Paradoxical though it may for a moment appear, one may say that in this way the will of to-day is able to put a check on the will of to-morrow. Under a worthy impulse a man sets himself to vivify the idea of duty, and he afterwards experiences its augmented force reacting against the will that created it and overriding its momentary tendency to lapse into a meaner intention.

In this way then thought may minister to thought and will to will. But this is only a small part of what is effected by moral reflection. A really worthy life depends not only on the vividness and constancy of the ruling moral idea but also on its volume and contents; that is to say, on what it comprehends as duty, on the proportionate values it assigns to the several kinds of obligation, and on its susceptibility to constant expansion and rectification with the advance of knowledge. Wherever the idea of goodness is narrow and rigid, and reverence for moral rules unintelligent, there may be the highest degree of sincerity, but there cannot be a very lofty or impressive measure of objective excellence. It may be assumed, on any theory of the source of moral value, that to have the clearest and fullest vision of life's uses, to recognise out of a throng of pressing claims the most momentous, or even to preserve a steady apprehension of all the moral aspects of a single course of conduct, will necessitate a very frequent and lively play of reflective consciousness. For even the intuitivist will allow that no man goes forth on his life's unvisited waters perfectly instructed by chart and rule of navigation. The utmost that his predecessors are able to give

him is an account of the country for which he is about to steer, and a few rough criteria of direction and speed. What may be the precise change of situation, relatively to the desired haven, due to any given conjunction of the forces of wind and tide, must be learnt slowly by repeated reflection on past experience and by renewed calculation. No amount of systematic ethical teaching will spare a conscientious youth the labour of discovering the highest opportunities of his own individual life; and no amount of patience in mastering the details of a moral code can prevent him from failing again and again to measure accurately the whole result of a single action, or the ratio of his propulsive moral forces to the resistance of an untried crisis. Hence one finds that the biographies of the best and wisest men are records of a slow and painful growth marked by many failures and re-adjustments of endeavour, of a gradual progress from the narrow and insufficient conceptions of unskilled impulse to the mature wisdom of a well-considered experience.

The precise mode in which a habit of reflection subserves this result is a matter sufficiently simple. It is difficult to understand how, without some hours of perfect retirement from external occupations and of earnest contemplation of life's problems, that life is to shape itself to the most worthy and morally beautiful form. For unhappily there is no known law according to which human nature adjusts itself plastically and spontaneously to its moral ideal, and even the happiest of moral temperaments fails by pure instinct alone to reach a very exalted development. Thought, then, and abundance of thought, directed to the ever varying and unique problem, how to realize the highest possibilities of a human life, is to the spiritual organism what nervous development is to the physical organism, the means of the highest self-adjustment to environment. And since this thought is progressive, growing larger with higher intellectual power, and assimilating some part of every new experience, it may reasonably assume the aspect of a daily act of quiet meditation. The survey of each completed day, in order to detect undiscovered weakness or unnoticed obstacle, or to compare the measure of resolve with that of execution; the careful anticipation of every new undertaking, in order to spy its unreaped harvest of good as well as its many lurking perils; the frequent enlargement and refreshment of one's moral views by contact with the wisest thoughts and most praiseworthy doings of other men: these and similar processes have been the customary exercises of a con-

scientious self-culture, and nobody probably would require any further explanation of their action as functions of the moral life.

So far we have been considering simply the intellectual ingredient in private moral culture. It remains to examine the other chief factor in this mental activity, namely, the play and influence of the emotional forces, which, though always involving the indirect effects of clear idea and of just thought, is still in a large degree a distinct mental process.

The recognised modes of spiritual self-discipline have always involved, in addition to habits of reflection, the cultivation of certain orders of feeling. Indeed this latter element has frequently received the greater emphasis. Assuming that the best guarantee for a faithful pursuit of virtue is an intense love of it, theologians and moralists have alike enforced the duty of frequently nourishing this emotion.* What may be the precise truth with respect to the relation of sentiment to external action, will be considered presently. For the moment we too may assume that the cultivation of the emotion of virtue is the strengthening of the moral nature, and will confine our attention to the real nature of this cultivation.

The emotional self-culture now spoken of appears to consist of a voluntary concentration of attention on certain ideas, such as those of holiness and beneficent service, with the intention of reviving and deepening a feeling of reverence or repugnance towards the corresponding objects. The nature of these feelings will clearly vary according to the ultimate conception of the moral reality. Thus, a Christian disciple will have prominently present in his sentiment of holiness that subduing, yet delicious, sense of Mystery which gathers about the nature of the invisible and perfect embodiment of this attribute. Similarly, the feeling of horror at the thought of a soliciting wrong may owe its force either to the baffled imagination of endless torment, or to the chilling first sense of extinguished Love, or finally to the vivid realization of a failure

* See, as a curious example of this teaching, the directions given in the *Phædrus* for nourishing spiritual aspiration by means of the erotic impulse. By laying stress on this initial stimulus, Plato seemed to admit the need of a deep emotional element both in æsthetic and in ethical contemplation. He thought that only by this process could prenatal reminiscence be revived, and the eternal ideal forms of Beauty and Virtue be discerned. It is evident, again, that the New Testament morality, abounding as it does in precepts to love, reverence, etc., lays great stress on the conscientious government of the emotional impulses.

of long-sustained endeavour and of the irremediable loss of a golden opportunity for worthy service. Yet in all cases the process seems to be one and the same. Its essential feature is a fresh exercise of a presumably useful emotional force. At moments when there is no call for decided action, and the energies of life's outer current slumber awhile in still depths, the feelings which nourish and sustain that action may themselves be nourished. In perfect solitude, with no design of immediate action, and under no direct stimulation from surrounding circumstances, the mind may thus strive to rouse to new movement a slumbering emotion, and may find modes of expressing and venting it which will react in deepening its old channels.

To discover what this process exactly consists of, must, one imagines, be an interesting study. There need to be considered both the modes of stimulating the moral feeling, and the machinery of its expression. In order to understand the former, it is scarcely necessary, perhaps, to go back to the origin of the moral sentiments. Whether these emotions are innate, slumbering forces in the infant mind, or a growth from accumulated impression and thought, or finally, as Mr. Spencer urges, both the one and the other, it will be admitted by all that they have somehow come to surround such objects as worthy deeds and types of character, as well as the ideas of these. So close, indeed, is this connection in a well-trained mind that no presentation of the object in one's self or in another, and no suggestion of it in thought can fail to evoke some quantity of the corresponding emotion. Consequently there lies a power in every man's hand of reviving such a feeling by deliberately attending to the idea of its appropriate object.

Were the cultivation of moral feeling simply this mechanical process, it would be as inoperative as it certainly would be tedious. For when any form of emotion is very limited the frequent attempt to revive it leads to comparative exhaustion. In order to maintain the freshness and vigour of a feeling, it seems necessary that there should be some *variation* of elements in its successive revivals. And this is precisely the reason why all the higher and more complex feelings, such as the sentiment of beauty and of moral goodness, admit of so frequent a gratification in a fairly intense measure; for they are eminently variable emotions. And this characteristic variability of the higher sentiments is due to the fact that they are inextricably interwoven with a large number of ideas, each of which has some slight effect in modifying the resultant emotion.

For example, the sentiment of delight called forth by a beautiful object, such as a statue or a landscape, is never the same in any two cases. Not only do the elements of colour and visual form often present new phases to the observer, but the innumerable suggestions which are afforded by a noble work of art, and which serve to impress a unique character on the total sentiment, vary from time to time according to the observer's knowledge and temporary mental condition. Hence the scope for frequent and fresh delight which is supplied by a creation of the pencil or of the chisel. A person stands again and again before a favourite painting and finds that by attending now to this aspect now to that, by following out now one train of ideas now another, he may derive an unceasing and ever new enjoyment. And this complexity is scarcely less striking in the case of moral ideas. On any supposition as to the ultimate basis of duty, it will probably be admitted that its aspects are manifold and only disclose themselves in their entirety to an attentive and patient eye. Any one who has conscientiously set himself to realise in vivid imagination all the dire attendants of a single species of wrong action, will have been impressed with their number and variety and will be able to understand what the ardent intuitivist means by the "infinity of evil." Similarly, if a man accustom himself to follow out in thought all the complex issues of a virtuous life, he will scarcely grow weary of the study as barren of discovery. Fresh elements of worth and new moral beauties will arrest the patient eye, and the heart that fancies it has known all the power of the worshipped image will experience a new and fuller love. If this be questioned it may be enough to point to the acknowledged uses of every worthy biography and of every inspiring romance. However systematic his ethical studies may have been, one will pretty certainly discover a new grandeur in virtue and a new foulness in base living after reading a play of Shakspeare or a story of Eliot. And could we but see the life-tide about us with such poet's clearness and minuteness, we might find that the moral of a work of art is due not so much to skilful selection and arrangement as to an exact perception of the realities of life. Similarly, reflection bestowed on our own advancing experiences can scarcely fail to discover a deeper meaning in the moral necessities of life. Careless lapses into momentary unworthiness show us for the first time the full significance of wrong, while faithful adhesion to the cause of human welfare opens up ever new vistas of joy-increasing enterprise. By frequent and progressive contempla-

tion of these realities a man may learn to comprehend all the attractive sides of goodness and the innumerable shades of the noble and the base, and thus his moral feelings may become deeper, more various, and more finely pitched.

Since, then, there seem to present themselves in the moral aspects of life all the requisite stimuli to emotion, we need to inquire whether the habit of *expressing* this feeling in solitude has any further effect in deepening its currents. It is commonly said that to give vent to a strong feeling in words or movements, while it relieves the feeling of the moment, adds to its future intensity. At the same time it should be remembered that where a feeling is extremely simple and invariable, its too frequent revival tends to exhaust it. These considerations, however, are only apparently conflicting. There are two principal conditions of emotional intensity, both of which need to be borne in mind here. First of all, any given variety of emotional experience is a considerable expenditure of a definite species of nervous force, and cannot be repeated within certain limits of time. Secondly, every renewal of a feeling, by directing nervous energy into a particular channel, opens up that channel and renders the recurrence of the feeling more easy. Hence it may be said that within certain wide limits repetition vivifies feeling, though beyond these it is simply self-destructive. Now in the case of a more complex feeling, of which the elements are never precisely alike in any two successive revivals, we may practically disregard the exhaustive action of frequency and consider simply the intensifying effect of free expression. It will be readily admitted that this indulgence of a sentiment does tend to deepen it. The cultivation through a lifetime of such sentiments as those of home and fatherland renders them mighty forces in the mind of a sexagenarian which it would be rash for any one to attack. That the free expression of a feeling should tend to react on the feeling itself, seems to be accounted for by the intimate union of feeling and bodily movement, which union again may have been brought about in part by associations of feeling with serviceable actions.* In the case of the moral feelings a perfectly unrestrained expression is rarely allowable in polished society. Although a man may express his abhorrence of another's crime in the freest manner, he is apt to be rather guarded when uttering his praises of some display of virtue in another; while an expression of his real feelings towards moral qualities regarded as possible attainments for him-

* See the paper on *New Theories of Expression.*

self would probably appear weak, if not ludicrous. The restraint which the rules of society tend to put upon emotional expression, serves to confine its more energetic forms to the limited companionship of intimate friend and to solitude. How far this is a desirable result, need not be considered here. It may suffice to say that if the stronger activities of moral feeling, namely, the vigorous pulsations of exalted moral worship and of deep abhorrence, are valuable forces, they must apparently be realised in some form of private devotion. It is probable that a man never knows the deep anguish of conscious wrong until he has had the courage to face in solitude its naked hideousness, not trying to control the throbbing outbursts of his sorrow. Nor are such outpourings of the heart significant merely to those who profess themselves conscious of an unseen presence. A man may become a presence to himself; and if he be a sincere striver after an unattained righteousness the frequent recurrence of adverse impulses will pretty certainly familiarise him with the idea of a double nature, one part of which may exercise supervision and restraint over the other.

Thus far it has been assumed that feeling, however cultivated, will tend to modify external action. Yet I am fully aware of the common supposition that the cultivation of the moral and religious emotions may be carried to a high point without any perceptible effects on the outward life. The occasional appearance of a hopeless criminal with a large development of emotional sensibility, or of a Bulstrode in whom the apparently sincerest religious culture coexists with an inveterate moral infirmity, gives colour to the belief that lofty sentiment has no certain relation to lofty action, and that the systematic culture of the more ethereal element is but a sadly futile employment. Is this so? And if not, what is the precise value of the emotional element in morality?

In order to establish the existence of a relation between systematic emotional culture and right conduct, it would be necessary to collect a large number of very inaccessible facts. What number of men really carry out these secret offices, it is of course impossible to say. It might be something to the point to show that on the whole professedly religious men, and especially men known to be earnest adherents to their faith, are more easily trusted than non-professors, even by outsiders. But this result, if established, might clearly be due to the greater social restraint that surrounds a member of a religious community, and not to any private exercises of his religion. It is obvious, indeed, that the *a posteriori* method is inap-

plicable to the study of a cause, the presence of which in any case is only a matter of inference. All that can be done is to reason deductively from what is known to be the mode of action of emotional influence in general.

Psychology marks off emotion as one of the three radical divisions of mind, and thus contrasts it in the sharpest manner with volition. Further, it is known that emotional activity, though always accompanied by ideas, may be carried on with comparative quiescence of the will. In all the moods of reverie, poetic fancy and religious aspiration, there is nothing but a spontaneous play of feeling and idea—a feeling calling up a harmonious image, the image in its turn ministering to the intensity of the feeling. Nor does this activity of a feeling necessarily involve any strong control of voluntary action. For first of all, the object of this cultivated sentiment may be of a highly ideal character, not presenting itself to the active mind as an attainable end. And secondly, though conscious action is always motived by some feeling, the intensification of a feeling does not always increase its force as a motive in a proportionate degree; for its tendency to do so may be counteracted by some strong defect of will, more particularly by the destructive effect of inveterate habit. When a course of life has been pursued uninterruptedly for a long period there is developed a force of cohesion between certain impressions and certain actions, which tends to remove the conduct from the region of conscious and modifiable phenomena. A drunkard's repentance to-day fails to influence his conduct to-morrow under sudden temptation, just because the rapid and automatic character of his habit allows no space in consciousness for the intervention of deterring memory. Another and very closely allied defect of will is due to the exciting and engrossing character of certain ideas. To some temperaments the very thought of certain modes of gratification is, so to speak, inflammatory. It tends to fill the mind and to overwhelm the springs of action, leaving no room for the play of conscious choice. When either of these defects is very conspicuous a large amount of emotional self-culture may fail to produce any appreciable result on conduct.

Applying these general considerations to the particular problem before us, namely, the influence of a cultivation of the moral feelings on external conduct, it may be said first of all that the object of feeling is in this case something eminently real and attainable. Even if certain forms of religious aspiration point to a purity and a perfection recognised as impossible on earth, it would seem that

moral aspiration, if in the least degree reflective, must take account of daily possibilities and daily temptations. Notwithstanding such baffling characters as that of Bulstrode, it may be assumed that in most men the sense of consistency is too powerful to admit of the co-existence of strong moral feeling with daily delinquency. The discord of the conflicting forces would be so great as to effect, in co-operation with the stronger, the subjection of the weaker. If there only exist clear ideas of what is right and noble, it seems certain that a frequent cultivation of a revering sentiment towards these objects will tend to promote the active pursuit of them. And it is hard to see how this effect can fail to be produced when the self-discipline takes the form of a daily survey of achievement and failure. It is no doubt conceivable that the defects of will referred to may prove invincible; and in that case the result must be either a maddening misery or a reckless abandonment of upward effort. But in all healthy and normal conditions of mind, where there is no habit or impulse so strong but that it may be modified by new motive, the range of influence open to such self-appointed discipline seems to be a very wide one. The worthiest natures have been able, by means of this steady exercise of thought and feeling, to reach daily to a higher level of excellence. And even in the case of the weaker moral structures, such activities may serve in unknown measure to break the occasional fall and to confine within a smaller circle the corrupting influence of some ineradicable "taints of blood."

While moral desire, because of its eminently practical character, seems fitted to accelerate attainment, it may be added that a steady and systematic cultivation of it is in itself a considerable exercise of the will. Unlike a purely spontaneous outflow of emotion, the deliberate cultivation of moral feeling is a laborious task which men will only undertake under the pressure of a strong and urgent reason. To nobody can it be a highly grateful occupation to exercise that moral self-criticism of which we have been speaking; and the development of a high moral sensibility can scarcely fail to bring suffering with it, as the mind recognises the meanness of actual attainment. Especially with the modern conditions of life, it is a matter of immense difficulty, requiring great firmness of resolve, to secure a periodic quiet for grave reflection and saddening self-scrutiny. Hence the man who succeeds in maintaining this habit has, *ipso facto*, done much to prop up the barriers of will against the stormy inroads of impulse.

It may well seem that all the advantage here claimed is but a

sorry thing, and that a faithful self-inspection and an earnest cultivation of moral enthusiasm can only succeed in disclosing the vast chasm that ever separates the ideal from the reality. Without doubt all severe moral exercise does teach this, and hence the most devout worshipper of a perfect holiness must also be the most humble. Yet a wise man will scarcely refuse in the hour of feebleness a supporting staff because of an inseparable chafing roughness. A sincere and thoughtful striver after a virtuous life will feel that his frequent retirement from action is a necessary factor in the striving, without which his vision would be hasty and incorrect and his spiritual pulse languid. He may be fully aware that each new adjustment of life's instrument fails to yield a note that accords with the perfect purity of the ideal tone; and yet he would not be without that inner music with all its sad accompaniment. It is something to him to have heard it, and much more to know that it is drawing to itself, however slowly, the best forces of his life.

Thus far we have been examining the processes of moral culture without any definite supposition as to the accepted basis of morality. I have sought to show that in the education of the moral ideas and feelings, whatever their precise origin and foundation may be, there is ample room for exercises which have commonly been connected with religious discipline. We may now complete these considerations by inquiring whether the value of these processes remains unaltered upon an acceptance of a purely relative and empirical conception of morality. The doctrine which bases all the worth of duty and virtue on known elements of human welfare, and which interprets moral intuitions as the slow products of experience, is frequently supposed to be destructive of the highest kind of ethical sentiment and of the impulses towards internal moral attainment. Nevertheless this relative view of the moral reality appears to have established itself with a stability sufficient to suggest the possibility of a final dominion among the most intelligent minds. And accordingly it strikes one as a question of considerable importance whether the doctrine is really antagonistic to higher moral culture, or whether, on the contrary, it is favourable to that patient self-discipline which we have seen to be so valuable in the finest developments of individual character.

Now, first of all, it may be remarked that the adoption of any particular theory respecting the final significance of morality has very little to do with one's practical sentiment towards this quality. A person may fully recognise that virtue owes all its worth to its

paramount value in the production of human welfare, and yet love and revere it very much in the same way as other men who know nothing of this ethical question. Indeed the very recognition of this supremacy of the life-end over the moral end, may lead one to devote himself to earnest pursuit of the latter and narrower, as one of the surest means of realising the former and wider aim.* Further, it may be well to remind ourselves of what a revered wisdom some time since taught us, that the final ascription of all moral worth to the results of conduct does not compel one to exclude from this category of conduct the silent government of thought and feeling, or to deny the very highest value to the invisible dispositions and impulses which are a main condition of external conduct.

Nor is this all. It may be urged with considerable force of reason that the necessity of private moral discipline is rendered more evident on this empirical theory of duty, than on any other theoretic basis. Let us compare it, in respect to its capability of inculcating this discipline, with the two other rival theories, the theological and the intuitive.

First of all, then, the utilitarian theory presents us with by far the most complex intellectual problem in the discovery of duty and in the appreciation of the highest excellence. On the supposition that all needed morality is supplied us in a divine revelation, the main difficulty is one of interpretation. If the idea of virtue is an innate possession of the mind, capable of being discovered by introspection, there may be need of thought in the separation of this idea from the mental effects of experience, and in the discovery of the orders of action and of character to which the seal of intuitive selection properly belongs. But there is no doubt about the existence of definite and "eternal" laws of right, and of their correlative forms of thought in the untaught mind, if only care be given to the recognition of these. On the other hand, to one who adopts the experience theory the task is far greater. Starting from the assumption that all

* This has been well illustrated in the autobiography of Mr. Mill. While feeling that happiness was the one aim of life, he saw also that an attempt to compass this vast object directly in conscious pursuit would defeat itself, and that in order to secure the widest possible measure of happiness it is necessary to renounce the immediate search for it, in favour of a limited and practicable endeavour after some definite condition of it. One is not a little surprised to find that so discerning a writer as Professor Caird declares this to be an "inconsequence." See a review of *The Logic of Hegel* in the *Academy* of January 10th, 1874.

morality is a derivative good, and therefore a matter of inference and calculation, he has to set himself to a most careful reflection in order to discriminate nicely the various shades of moral worth and to decide between opposite lines of conduct. All rightness being relative to the effects produced, and so to the concurring circumstances of the time, there presents itself in every new individual life a fresh moral problem. It has been urged again and again by opponents of the theory (most recently by Mr. Leckey and the late Professor Grote) that it requires too much of the individual; and although this objection may be due to a misapprehension, it seems to show plainly enough that the theory in question makes extraordinary demands on habits of moral observation and reflection.

Just as the empirical theory of morality presents to the sincere striver after good the most difficult intellectual problem, so it throws him most completely on his own unaided efforts in the solution of the problem. The theologian is able to offer not only a definite standard of teaching—whether in an original revelation or in its interpretation by the church—but also the possibility of direct spiritual guidance by a supernatural illumination of the soul. The intuitivist, too, in a lesser degree, by teaching the latent existence in the soul of the regulative moral idea, leaves open a door to a sudden, accidental, and semi-miraculous discovery of the path of duty. In contrast with these, the utilitarian moralist teaches that nothing but a man's own patient search will reveal to him the golden thread of his life-duty. No secret admonition, no deterring influence of Socratic δαιμόνιον, no sudden outshining of transcendental idea presents itself to a disciple of this morality, and, consequently, he, more than any other, must realise the risks of sudden and impulsive conduct, and the need of making every new endeavour clear and distinct in the light of a calm prevision.

Once more, it may be said that, even in respect to the development of a refined sentiment of veneration and love, the new doctrine of moral worth stands on an equal footing with, if it is not superior to, the older ones. No doubt, as I have already hinted, the nature of the sentiment towards such a moral attribute as holiness will lose some of its mystic character and force in the mind of a utilitarian. There is a kind of sentiment attaching itself to the invisible, and to the eternal and absolute verity, which finds no *point d'appui* in a relative interpretation of the moral reality. The object of reverence and of ardent aspiration to a utilitarian is something tangible and susceptible of quiet examination. Yet it does not follow that this

object is unfitted to attract a sentiment quite as intense and deep as that in which awe before the vague and mysterious is the most conspicuous element. If the conception of human happiness be a definite one in respect to the quality of its contents, it is an indefinite one in respect to their quantity. The far-reaching effects of worthy individual conduct, including its subtle influences on unknown contemporaries, and its beatific action on remote descendants, may, perhaps, be said, without extravagance, to contribute an object of inspiring thought not less subduing than that of a divine and eternal decree. Given, argues the utilitarian, a nature capable of conceiving, and of sympathising with, the happiness and misery of its fellows,* and one may be certain that the frequent contemplation of so sublime an expanse of conscious life, with all its possibilities of exalted bliss and of overwhelming woe, will develope an ardour of emotion fully adequate to the most lofty human service. For even if there be a certain emotional loss, through the suppression of the idea of the mysterious and impenetrable, this is more than made up by the addition of a basis of sentiment, as vast and stable as that which is afforded by an intelligent conception of the highest human welfare. Further, he may urge that this idea, as the correlative of a reality existing beyond the consciousness of the individual—the sum of all worthy achievement present, past and conceivable—is fitted to attract a proper sentiment of reverence, and to call forth a daily aspiration. I may add, moreover, that the acceptance of this conception of morality will not preclude the growth of distinct shades of moral sentiment; for even though all parts of the moral end are seen to repose on the needs of human life, the unequal quantities of these varieties of good, as estimated by the amounts of happiness which they respectively secure, may still serve to sustain in relation to them feelings qualitatively unlike one another. Thus, for example, even though holiness be regarded no longer as a dreadful mystery, but as the clearly recognised condition of daily duty, and as the costly and slowly-wrought equipment, the possession of which is a necessary antecedent to chivalrous and beneficent service, it may still attract an intensity of reverential regard which will assume the shape of a specifically

* It is curious that adverse critics of the doctrine assume the necessity of proving that collective human happiness has a desirable worth to the individual. The fact of this desirability is really a datum for the moralist, unless indeed the disclaimers of Mr. Fitzjames Stephen must be looked on as having rendered the fact doubtful.

distinct emotion. Not only so, but the poetic ideas which form accretions about moral ends, and help to give them their distinctive characters, may continue to do so in the mind of a utilitarian. The beautiful attributes of purity, of harmonious social order, and of illustrious virtue, are not connected with any peculiar basis of morality and will not disappear with it; but they will continue to minister their refined ingredients to the moral feelings even though men adopt a purely relative and human conception of morality.

Finally, it may be said that the value of emotional culture is quite as evident on the empirical theory of morality as it is on the other theories. No doubt both Christian theology and intuitive ethics have taught the necessity of continual meditation in order to see the full majesty and beauty of virtue. Plato and St. John approach each other at times in their modes of inculcating this habit. Yet there is something indistinct in their conceptions of the process by which moral growth advances; for they appear to attribute this to the gradual development of an occult spiritual faculty or of a special mode of spiritual activity.* The empirical doctrine, however, supplies us with a perfectly natural and intelligible method by which this moral growth is secured. Postulating simply a capacity for sympathy and ordinary conceptive powers, it can trace out in distinct outlines the course by which the requisite emotional forces may be developed. And by offering an object of contemplation so vast and so full of suggestion, it makes urgent demand on that habitual consecration of thought and cultivation of feeling, the nature of which we have just been examining.

In seeking to indicate the meaning and value of what is usually styled religious self-culture, I have purposely refrained from any attempt to determine its precise form. By the use of such terms as private meditation and periodic retirement I have been able to enumerate with sufficient clearness the essential characters of these exercises. It may be said that perfect retirement and protracted concentration of thought are necessary to the genuineness and thoroughness of the reflection; and that frequency, if not an unbroken regularity, is a condition of its practical efficacy, that is, the preservation of a constant relation between thought and action. For the rest, it may well be left an open question how such reflection

* With Plato this faculty is the reminiscence of prenatal cognition (*ἀνάμνησις*); with Plotinus, ecstatic vision (*ἔκστασις* or *ἀφή*); with St. Paul, the spiritual as opposed to the natural mind (*τὸ πνευματικόν*).

is best conducted. Some persons require a clear direction from without, not only to supply them with inspiring thoughts, but even to control the due sequence of their ideas. To such minds an earnest biography, an inspiring poem, or a thoughtful essay may be a valuable incentive and source of illumination. Stronger and more fertile minds often grow by their own unaided efforts, and pass to lofty attainments from the spontaneous impulse of an active imagination. To these, retirement and meditation in perfect independence of external suggestion, or quiet contemplation of nature's harmonious activities with their many suggestions of the possibilities and limitations of human endeavour, may prove the best preliminary to arduous action. Whatever may be the precise mode of self-improvement resorted to, the process may be described as the patient endeavour of a sincerely aspiring moral nature, in an hour of external repose, to recruit the energies of thought and emotion which serve to sustain the outer life-achievement.

# THE BASIS OF MUSICAL SENSATION.

If, having selected at random an uneducated lad, a student just fresh from the Conservatoire, and a man of general culture, we introduce them to a concert-room, and compare the impressions they severally receive from a symphony of Beethoven, we shall find these mental effects to be curiously unlike. To the untutored boy the various sequences of melody and harmony are little more than a variety of sensations, delightful or painful in different degrees, the grounds of which he is wholly unable to give us. In the mind of the ardent musician, again, these effects of single sensations appear to be lost in the intellectual gratification of comparing and relating their several distinguishable aspects, and of discovering the formative elements which make them an artistic product. Finally, the consciousness of the man of impartial culture passes from the single organic effects in which the lad's mind remains confined, not, however, to the fine perceptions of musical form in which the trained connoisseur delights, but to an indefinite number of vague ideas and feelings, which appear to throng as groups of images about the sequent sensations. In the first case we have simple emotional effects, which tell the mind of nothing beyond themselves, and which seem to spring immediately from the peculiarities of our organism. In the second instance, there is presented to us a highly objective form of consciousness, actively employed in noting the external aspects of the art. In the last case, we find an intensely subjective mode of consciousness, the mind being comparatively indifferent to the immediate sensation and its external references, and gratifying itself spontaneously in the varying play of memory and fancy.

These three imaginary hearers represent, in a rough fashion, three classes of musical effect, each of which a complete psychology of the subject would have to consider. They all constitute normal mental results of musical impression, though we see that in different minds, and in different stages and moods of the same mind, there is a tendency in some one of them to become prominent and to overshadow the others. Each of them, too, presents a large field for

interesting research, and merits a separate consideration. The one that offers itself most naturally as the first subject of inquiry, is the initial process in the actual development of musical sensibility; and to this I propose to devote the present essay.

The peculiar interest that belongs to the study of the physiological foundations of our sensations of tone appears to arise from two principal facts. First of all, the sensations of musical harmony seem to present an example of those ambiguous psychological phenomena, of which it is difficult to say, how far they are ultimate, how far derivative feelings. Secondly, the singularly exact and certain conclusions with respect to the external antecedents of musical sound, which have been reached by physics and physiology, naturally offer a powerful stimulus to the application of physiological theory to the illumination of these obscure mental regions. My present intention is to examine into the latest and most valuable results of this physiological speculation.

The complex impressions of music appear, on a first reflection, to be resolvable into innumerable combinations of simple tones. These elements compose a series, or scale, according to their several degrees of pitch.* Within certain limits, all such variations of pitch are pleasing sensations. When, however, the note rises above a certain height, it becomes shrill and painful; and when it falls below a certain depth, it breaks up into separate pulsations of sound, and loses its tonic character. Further, as the pitch of a note approaches either of these limits, it becomes less clearly recognisable; that is to say, we cannot so easily distinguish the note from the adjacent notes of approximately similar pitch. In addition to this fundamental property of pitch, a note possesses other peculiarities, of which the chief is timbre, that is, the colour or quality of a note as determined by the character of the instrument that utters it. When sung by the human voice, a note is felt to be of a rich quality, whereas if it be sounded on a flute, it strikes one as poor and empty. Every tone has, of course, a certain duration in time; and in consequence of our many experiences of variation in the duration of our sensations, we are always able to conceive the briefest musical sound as divisible into shorter intervals. Yet such a mental division is not, strictly speaking, an analysis of the sensation into simpler parts. We can obtain by it nothing but

* Our diatonic scale is well known to be in part an arbitrary invention of art, since the ear is capable of discriminating much finer shades of difference in pitch than those of our minimum semitone interval.

shorter time-units of precisely the same mode of feeling. All that subjective reflection tells us about these single tones is, that they are simple homogeneous sensations, not susceptible of being divided into more elementary impressions.

Out of these elements, then, the elaborate effects of musical art are built up. By combining them in an indefinite number of varieties, with respect to time, intensity, and emphasis, and—in the case of orchestral music—with respect to timbre also, we may obtain the multiplex effects of finished musical composition.

Of this combination there are two possible modes, that of simultaneous, and of successive tones, each of which proceeds according to certain laws of affinity between the separate notes. In the case of co-existent notes this is clear enough. The musician, in combining tones in accords, has to attend to the harmonic relations of each particular note. On the other hand, in co-ordinating the sequent tones of melody, there seems at first sight no such limitation. Yet if we try on a piano all possible intervals, from a given note to other notes above it, we may observe that while some transitions are pleasing and natural, others are strange and perplexing. The first and obvious link of transition between notes is supplied by proximity in pitch. A given note passes more smoothly into its contiguous tone or semitone than into its sixth or twelfth. Yet this fact is not peculiar to musical sound, but holds good of all our sensations. The sequence of all strongly contrasted impressions, whether colours or tones, has something of a shock, whereas a gradual passage from one sensation to another, only slightly different in character from the first, has a quieter effect on the mind. The real peculiarity of tonic transition is to be seen, when a leap from a given note to one far removed in pitch is nevertheless felt to be natural. This happens whenever the two notes have a harmonic relation, so that the same intervals are melodious and harmonious. The explanation of this fact may, perhaps, be that immediate transition from one sensation to another is rendered, by the faint persistence of the former in memory, scarcely distinguishable from their simultaneous occurrence. Nevertheless, we must conclude according to subjective reflection, that the delight of melody is a distinct feeling from that of harmony and cannot be derived from it.

With respect to our feeling of harmony, something more needs to be said. In listening to any harmonious conjunction of two notes, we appear to have a distinct mode of sensation, which it

is impossible to render more intelligible, either by analysis or by analogical description. It is true that the ear can imperfectly distinguish in this effect of harmony the sensations which blend to produce it. When one concentrates attention on a note in a chord, it does not seem qualitatively different from a note of the same pitch when struck alone; only it is partially obscured by its union and apparent fusion with the other notes of the harmony. Yet the new and unique effect of harmony is felt to be quite separable in thought from the single notes that support it. It is in no sense the sum of these notes, an effect which we might have inferred *à priori* from a mere knowledge of the constituent notes. Such calculation would enable us to predict the total intensity or mass of sound producible by the combination of any given notes, but could never give us a remote hint of the new quality of harmony.

I am well aware how commonly musical harmony is described as a relation between single tones. But this mode of speech arises, probably, from a transference of language from other and analogous regions of feeling. When we speak of harmonious traits of character, or even of a harmonious tone of colour running through a picture, this commonly means that we perceive a certain thread of similarity in the various parts. This pleasing aspect of likeness is felt to be so akin to the quality of musical harmony, as known to arise from the juxtaposition of certain notes, that we readily come to talk of the latter in terms of the former. Yet a little attention to the impression of notes in accord will at once convince us, that the feeling of harmony is no product of a perception or comparison of the separate notes, but arises in consciousness just as directly and unaccountably as the peculiar effect of tone itself. This may be readily recognised by rendering the separate notes of a chord as indistinct as possible. If one strikes on a piano very lightly in *arpeggio* manner the notes of a common chord, and then listens to the faint after-tones when the pedal is still down, he may easily obtain all the characteristic sweetness of harmony without being able to recognise the precise character of a single note of the accord.* Subjectively, therefore, harmony may be regarded as a class of sensation *sui generis*.

* We shall see by-and-by that this subjective distinction between the effect of a chord and that of a rich full note, is not so rigid as it at first sight appears. A practised attention to the real nature of timbre leads one to assimilate, to some extent, the impressions of harmony and of timbre. But of this, later on.

While all harmony constitutes a single mode of sensation, our various feelings of harmony admit of individual differences. These differences refer to the measure of purity or the degree of sweetness in the harmony. While some conjunctions of notes give us this sensation in an intensely pleasurable form, others afford it in a less clear and perfect manner. The proper feeling for differences of shade in harmony is a still more difficult attainment than the appreciation of the simple sensation of harmony. For the various harmonies which our musical instruments render familiar always seem distinctively coloured by the single notes that are felt to be present; and thus their real harmonic worth tends to be obscured. If, for instance, we wish to discover, by the mere observation of our sensations, whether the chord of the fourth or of the fifth, that is, C–F or C–G, ministers the purer harmony, we find the comparison exceedingly difficult, through the obscuring influence of other characters impressed by the individual notes present. Yet here again, by making the single notes as indistinct as possible, we may approximately measure the various grades of harmony used in our modern scale. If, for instance, in listening to a major or to a minor third (C–E, C–E flat), we try to suppress all suggestions of extraneous elements, all mental references to key, and to concentrate our attention on the mere sweetness of the harmony, we may easily discover it to be purer in the former than in the latter combination. In the minor chords there is felt to be a partial troubling of the smooth flow of the accord, and this circumstance lends to the impression an aspect of sadness. It is worthy of observation that none of our musical notes unite without producing some effect of harmony or of discord. Although, in consequence of experiences of non-musical sounds, it is an easy matter to conceive a combination of tones to be unaccompanied by either of these feelings, one finds, as a matter of fact, that they never are so, though some of these effects are neither pure harmonies nor pure discords, but apparent minglings of the two feelings.

Much the same thing may be observed with respect to the pleasure of melody. It follows from what has just been said, that the delight of a melodious sequence, for example that of C–G, is not due to any consciousness of resemblance between the successive tones. The great exception to this truth is to be found in the interval of the octave. Two tones removed by one or more octaves, always appear of the same melodic quality, although their difference of pitch is considerable. All other melodious intervals

minister their peculiar mode of grateful change of sensation in varying degrees; and these degrees of melodic sweetness correspond precisely to those of harmonic purity.

Such, then, appears to be the nature of musical sensation, looked on from the side of internal consciousness. By help of this method of observation, we arrive at the pleasures of tone, harmony, and melody, as the ultimate elements of musical impression. We may now pass from our subjective point of view, and, having placed ourselves on the external side of the mental edifice, in company with the physicist and physiologist, may observe the material processes which always precede and originate these agreeable sensations.

It is well known that the external cause of every sound is a very rapid series of vibrations set up in the sounding body, and propagated to the ear, for the most part, by the medium of the air. These vibrations, when thus transmitted, take the form of aërial undulations or waves, which are very similar in their character to the spreading ripples we may produce on the surface of a lake by throwing a stone into it. In the case of a musical sound or tone, these waves are of equal length and recur in equal intervals of time, while the undulations which precede a mere noise are wanting in this regularity. Further, it has been proved that, corresponding to every difference of pitch among notes, there is a difference in the rapidity of the aërial wave-series. The higher the note, the greater the number of vibrations per second; and, since all sounds travel through the air at the same pace, it follows that in a high note the length of the air-wave is diminished just in proportion as the number of waves per second is increased. When, moreover, the same note is struck softly and afterwards loudly, the number and rapidity of the undulations are the same in both cases, the difference in intensity being due to the greater range of oscillation of the aërial particles. Again, we learn that when two sounds are simultaneously produced, the waves of the two series, passing over the same tracts of air, combine, if not too similar in their rapidity, in a single series of composite waves. Thus if C is struck simultaneously with G or with F, we must try to conceive that there enters the ear one set of undulations which represents in its various phases the mathematical sum of the two series underlying the separate tones. Finally, our familiar physical science tells us that in the case of all combinations of notes which afford the pleasure of harmony and of melody, as C–G and C–F, the number of aërial vibrations per second of the one note bears a simple numerical ratio to

that of the other. Thus, if we take any G and the next C above it, we find the number of vibrations in the G series during any interval of time to be just three-fourths that of the C series in the same time.

Having thus, under the guidance of the physicist, arrived at the threshold of the ear, we may ask the physiologist to conduct us through the unknown mazes of this organ, and to unveil for us those fine processes which form the continuation of aërial waves, and are the immediate antecedents of our sensations. From his descriptions we find that the air-waves pass into vibrations of tympanum, bone and fluid, until, in an intricate part of the inner ear (the *scala media* of the cochlea), these fine movements reach the extremities of the nerve-fibres, and are transformed into those obscure processes of the nervous substance that underlie all our sensations. The terminations of the nerve-fibres, the so-called fibres or appendages of Corti, are arranged in a very curious manner, and constitute a kind of key-board, each distinct filament being supposed to answer to some one set of aërial waves, and so to subserve the production of one particular tone. In the case of a combination of simultaneous sounds, one has to suppose that the compounded undulations before described are resolved by the fibres of Corti into their constituent series, so that the compound series has precisely the same effect on the nervous fibres that the simple ones would have had if they had entered the ear singly. Of the exact nature of the nervous process but little is as yet known. Most physiologists are, however, agreed that it is a mode of molecular vibration more or less analogous to the physical processes of light, electrical phenomena, and so on. If this be so, one may conjecture that each distinct series of sound-waves is transformed into a corresponding series of molecular movements. That is to say, the vibrations in the nervous fibre affected by a rapid series of aërial undulations would also be rapid; those in another fibre affected by a slower series would be relatively slow; and, in the case of harmonious notes, the distinct sets of vibrations going on in the various fibres concerned would bear to each other a ratio similar to that borne by the two aërial series of undulations.

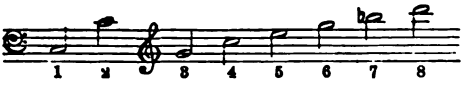
As the result of this physical and physiological teaching, we should have the following basis of musical pleasure. The pleasing effect of tone, as contrasted with mere noise, arises from the even regularity of the sequent molecular movements of a nervous fibre.

The delight of harmony and of melody is connected with a simple variation in the mode of this regular sequence in two or more fibres, the molecular vibrations in each fibre acted upon being continuous and equal, but varying in their absolute rapidity in a simple numerical ratio. In order to explain any further why such modes of nervous excitation are pleasurable, rather than others, it would be necessary to learn more about the nature of pleasurable nervous stimulation in general, and to connect this particular mode of exciting pleasure with other modes observable in the processes of vision and so on.

Such appears to be the view of the organic foundations of tone and harmony commonly adopted by recent physiologists. In opposition to this, a new theory of musical sensation has for some time been propounded by one of the most eminent of contemporary physiologists. The researches of Professor Helmholtz into the basis of musical pleasure have naturally, perhaps, excited much more attention in his own land, so fruitful of music and of science, than in our country. They imply, no doubt, mathematical details which are apt to repel the non-scientific reader. Nevertheless, their principal results are easily apprehended, while the fact that they profess to account for much of the mysterious influence of musical impression, should make them a matter of importance to every reflective lover of the art.*

The substance of Helmholtz's principal contributions to musical theory is implicitly contained in his system of upper-tones. It has long been known, as a physical fact, that a string or wire when made to vibrate, swings to and fro, not only throughout its whole length, but also in its half length, quarter length, and so on. Similarly, too, the column of air in certain wind-instruments vibrates in several different series of waves, similarly related to each other in length. Out of these simultaneous sets of vibrations there arise concurring series of waves in the connecting medium of the air, which answer,

* The full exposition of the author's theory is given in his great work *Die Lehre von den Tonempfindungen.* A very succinct and clear sketch of the doctrine may also be found in a lecture, *Ueber die physiologischen Ursachen der musikalischen Harmonie* (see *Populäre wissenschaftliche Vorträge*, Brunswick, 1865). A brief account of the physical side of the theory is supplied by Professor Tyndall in the last chapter of his valuable *Lectures on Sound.* Finally it may be added that, since the first appearance of this essay, Mr. Sedley Taylor, in his able treatise, *Sound and Music*, has supplied English students with a lucid statement of the bearings of the doctrine on the elementary impressions of music.

in their several rapidities, to a principal deep or fundamental tone, and to feeble upper-tones, which are simple multiples of the same. Thus, when a G wire of a piano is struck, there are propagated faint undulations corresponding to the next octave, others to the fifth above the octave, and so on. The order of these upper-tones, in the case of any given note, may be seen by a glance at the following example, in which the ground-tone is marked 1 :—

The higher members of the series are very feeble, and need not be taken into account as affecting our sensibility. It is found that the peculiar quality of timbre, or richness of tone, is due to the number of upper-tones present in the note. Following Professor Tyndall's example, I may adopt the German word and say that *clang*, as distinguished from simple tone, owes its superior quality to the presence of upper-tones. For example, a note sung by the human voice, or struck on a violin, is found to be much fuller and finer in quality than one uttered by a flute; and this difference exactly corresponds to the variation in the number of the upper-tones present. When the note is nearly destitute of upper-tones, as happens in the case of the sounds of a stopped organ-pipe, it is thin and poor, and does not minister the proper enjoyment of clang. Why these partial tones should not be discoverable as distinct ingredients of a note is to be explained, according to our author, by the fact of habitual inattention. He considers that after close observation, a fine ear may soon come to detect their separate existence.

These upper-tones, moreover, have a bearing not only on the phenomenon of timbre or clang, but also on that of harmony and of melody. It is obvious at once that, by supposing several subordinate tones to be present, though blending indistinguishably, in a musical note, we very much complicate the problem of harmony. For when two notes are sounded together, there must be agreeable unison, not only between the two ground-tones, but also between the ground-tone of the one note and the upper-tones of the other, and, finally, between the several upper-tones of the two notes. Unless all these elements combine in a pleasing mode of sensation, it seems impossible to obtain the pure enjoyment of harmony. Helmholtz distinctly recognises this consequence of his theory, and seeks, with the help of it, to establish a new principle of harmony,

which, if accepted, must be regarded as an important contribution to the physiology of music.

In order to understand this principle, it will be necessary to return for an instant to the physical explanation of sound. When two series of air-waves of widely different lengths simultaneously travel to the ear, they combine, as we have already seen, in the form of a single series of compound waves, and affect the two corresponding nerve-fibres just as if they entered the ear apart. But if the undulations of the two series are very nearly equal in length, no such even effect is produced by their conjunction. As the one set is only slightly in advance of the other, their several phases tend now to strengthen, now to neutralize, one another. Thus, if we take the phase of an undulation which represents condensed particles of air, the effect will be now to double this density, now to reduce it to the average level. The result of these aërial interruptions on the ear is a series of alternate swellings and dyings of sound, having the character of abrupt shocks of tone (*Tonstösse*). Such unpleasant sensations are frequently produced by a piano when out of tune, since in this case the two or three wires which concur in producing a note are no longer exactly of one pitch.

When these beats are very slow they are by no means disagreeable, but have a certain impressiveness. Hence they are actually sought after in slow church music, since both the organ and the harmonium have a stop (*tremolo*) supplied with two sets of pipes or of vibrating tongues which are fitted to produce these beats. The greater the difference in the length of the waves of the two notes, provided only that they are sufficiently approximate to produce the effect at all, the more frequently do the beats recur. The number of beats which arise in a given time is equal to the difference in the numbers of vibrations of the two notes during this period. When they are not more than four or six in a second the ear can readily follow their successive phases. When they are from twenty to thirty in a second, the ear still recognises them as beats, though it is of course unable to follow them with the same distinctness as before. The mental effect is now the unpleasant feeling of a jarring sound. It resembles the impression of the guttural R, which is known to be due to rapid intermissions and sudden explosions of sound. By means of the double sirene, it is possible to produce a series of rapid intermittent sounds, which have precisely the same character of roughness and harshness. When these beats reach a certain rapidity, above 132 in a second, they are no longer

recognisable, and the tones lose their harsh character. At the same time it is found that there is another limit to the production of this effect, besides that of the number of beats per second. Thus, for example, the semitone B–C produces beats just as distinctly in the higher regions of the diatonic scale, where the number of beats is 132 per second, as it does in the lower octave, where the number of beats is 66, and as it does two octaves below, where the number of beats is only 33. The ear recognises a far more rapid series of beats if they are produced by high tones than if they are produced by low tones; and the maximum number recognisable at different points of the scale varies roughly as the number of vibrations of the tones, that is to say, in a geometrical ratio. In other words, the greatest number of beats per second perceptible at any given point, is double that of the same interval an octave below, and so on. Thus, there is a limit of *interval* in the producing tones, as well as a limit of *rapidity* in the beats produced, each of which serves to confine the effect of these intermittent shocks on our sensibility. It is ascertained, moreover, that the most piercing harshness of tone arises from a series numbering from 30 to 40 beats per second, in the upper regions of the scale. Finally, the *character* of this disagreeable effect is found to vary according to the rapidity of the beats which produce it. While slower beats give a coarser sort of roughness to tones, more rapid successions produce a sharper mode of harshness.

Helmholtz seeks to supply us with physiological reasons for these disturbing shocks. He supposes that their effect on our auditory sensibility is produced by means of the joint action of two adjacent tones on the same fibre of Corti. When two tones produce appreciable beats, they are conceived as setting up vibrations in one and the same nervous appendage in the ear, which vibrations undergo the same changes of increase and decrease of intensity as those of the air. Now it is known that all rapid and intermittent stimulation is disagreeable; as we may see in the effects of flickering light, tickling, etc. While continuous and even stimulation tends to exhaust the nerve, and so to lose its effect, intermittent stimulation, by giving brief intervals for nervous restoration, continues to be effective, and by its excessive intensity produces a feeling of pain. To speak in the language of Sir W. Hamilton or of Mr. Spencer, one may say that pain is here the concomitant of an *excessive* employment of the nervous energies. On this supposition, one may see how it is that both the rapidity of the beat and the width of the interval serve to determine the range of this painful

effect. Thus, we may suppose that after the number of beats becomes greater than 132 per second, the interval of nervous repose grows evanescent, so that the nerve escapes the injury of excessive stimulation, just in the same way as it does under a strictly continuous stimulation. Further, we may reason that in order to produce this effect, the two tones must be near enough to act upon the same fibre of Corti. Hence, in the lower regions of the scale the aërial beats produced by given intervals, though they are not too *rapid* to be recognised, do not affect sensibility, because the tones producing them are too unlike in the numbers of their vibrations to act upon the same nervous appendage of the ear. In other words, though there may be aërial beats of the required rapidity, they cannot pass into nervous beats.*

From these considerations one may see how it is that two notes *of approximately equal height* conflict with each other in the harsh effect of dissonance; for they are sufficiently near one another to act on the same nerve-fibre. But it does not so readily appear why notes far removed from one another in the diatonic scale are also discordant. How is it, for instance, that an intensely discordant sound is afforded by striking simultaneously the G of the treble clef and the higher F sharp? The answer to this question our author finds in his theory of upper-tones. The first and strongest upper-tone in the G clang is that of the octave above; and since this is only a semitone removed from the other note, F sharp, it clashes with this, and produces the discordant impression. Similarly an upper-tone of one note may produce discord with that of another.† When, for example, the lower C of the treble clef is

* Helmholtz says that equal intervals do not combine in producing precisely the same degree of harshness at different levels of the scale, the same intervals being less rough towards the upper parts, harsher towards the lower regions. He does not, however, offer a final explanation of this slight deviation from the principle stated in the text.

† The presence of these beats may occasionally be detected even in a single clang, if it is very rich in partial tones; since it is possible that the higher upper-tones, those beyond the eighth, may approximate so closely in pitch as to affect the same nervous fibre. These effects are most conspicuous in clangs of low pitch; and this accords with the fact, already alluded to in a previous note, that similar intervals are somewhat more harsh in the lower than in the higher regions of the scale. Helmholtz shows that this phenomenon must be taken into account in determining the lowest continuous tones of the scale which the ear can perceive. It is because of this greater liability to dissonance among its upper-tones in a low-pitched, than in a high-pitched clang, that singers always strive after a high compass of voice. The superior value of high clangs is due

struck with the next A flat above, it may be easily seen from the illustration of the order of the upper-tones already given, that the second upper-tone of the C is only a semitone removed from the first upper-tone of the G. Accordingly, we find that this combination of notes, though rendered familiar as an element of the chord of the lower A flat, has in it something strange and half-sad, and forms a characteristic interval of the C minor key.*

In this way Helmholtz establishes an invariable connection between the degree of discordance of two notes and the number and prominence of these disturbing shocks. The clearly pronounced discords involve disturbances among the ground-tones and the lowest and most powerful upper-tones. From these highly disagreeable mental impressions, up to the sweetest harmonies, there is a decreasing scale of painful effect which is determined by the decreasing number and prominence of these disturbing beats. Just as the harshest discord corresponds to the greatest number and prominence of these beats, so the purest harmony answers to their perfect absence. This is the one discoverable physiological ground of the pleasure of musical harmony, and no other is required. Harmony is only known as contrasted with discord, and a finer sense of disturbing elements, whether due to superiority of natural organism or to higher culture, discovers a conjunction of notes which was once felt to be harmonious, to be painfully discordant. To use the author's own words, we may say that "Consonance is a continuous; dissonance, an intermittent sensation of tone."

The great experimental proof that harmony thus rests on a relative and negative ground, is afforded, according to our author, by the case of those instruments, such as stopped organ-pipes, in which the upper-tones, and consequently their mutual disturbances, are almost entirely absent. These instruments not only fail to yield the rich quality of clang, but are further wanting in the peculiar effects of harmony and discord. All their combinations of notes

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partly to the less prominent character of their dissonant upper-tones, and partly to the fact that in the higher regions slight discrepancies of pitch occasion a much larger number of beats, which peculiarity serves to render the musical feeling for pitch in these instances much more accurate.

* Besides the upper-tones, other partial tones may also co-operate in producing discord. These are the so-called combination-tones, which arise from the simultaneous utterance of particular notes. Their effect, however, in our ordinary instruments is very insignificant, and it becomes appreciable only when, as in the case of stopped organ-pipes, the upper-tones and their effects are almost completely wanting.

seem to the ear indifferent and colourless; and those which on other instruments afford the sweetest harmony, are said to be scarcely preferable to the rest.

Our author seeks in a very interesting manner to trace out the influence of these colliding upper-tones in the actual formation of our modern harmonic system, and in the various historical developments of harmony. Highly instructive as these researches are, our present space does not allow us to follow them in detail. One or two examples of the method of inquiry pursued must suffice.

By conceiving the absence of repugnant elements in the partial tones of clangs to be the one condition of harmony, Helmholtz seeks to define the various degrees of consonance between notes, and to classify them as follows. First of all we have "absolute consonance" when the ground-tone of one note coincides with an upper-tone of the second, as happens in the case of the octave and in that of the twelfth, or fifth above the octave. In these cases the effect of beats from adjacent upper-tones may be looked on as evanescent. Secondly, there are the "perfect consonances" of the fifth and fourth, as C–G, C–F. Of these two, the fifth is the most free from disturbing upper-tones; and this interval has, accordingly, always been recognised as a harmonious combination. The fourth is less completely free from disturbing upper-tones, and hence the repeated disputes as to its harmonic character. Next in order come the "middle consonances," or those of the major sixth and third, C–A, C–E, in which the presence of antagonistic upper-tones is much more apparent. Finally, there remain the "imperfect consonances" of the minor sixth and third, C–A flat, C–E flat, in which, as their minor character suggests, there is a distinctly recognisable effect of dissonance. These intervals exhaust all the more common and familiar combinations of the major and minor keys. Others, that are frequently used in musical compositions, as, for instance, those of the dominant seventh (G–F in the key of C), are in reality distinctly discordant, though they are admitted, on other grounds, as transient elements in sequences of harmonies.*

* Helmholtz has a method of determining what upper-tones conflict in the several intervals, by regarding each interval as a discordant deviation from an adjacent consonant interval. Thus the third may be looked on as an imperfect fourth, and *vice versâ*. By adopting this conception he shows that "in every consonant interval those upper-tones conflict which coincide in the adjacent interval." The mathematical reader may demonstrate this for himself, by help of the table already given.

After thus applying the phenomena of upper-tones to the explanation of the effects of harmony, our author proceeds to investigate their bearing on melody. He accepts it as an indisputable historical fact that the feeling for melody may be developed in the absence of harmonic experience; so that he deems it a mistake to derive all melodic gratification from remembered impressions of harmony. He finds a basis of natural melodic affinity in the effects of upper-tones. Thus, for example, it follows from what has been said respecting the order of upper-tones, that when a note is succeeded by its next octave above, "we hear" (in the second clang) "a part of that which we have just heard, and hear at the same time nothing new which we have not already heard." Similarly, when a sequence of fifths is played, as C–G–D–A, each new clang carries on, so to speak, a part of the impression of the preceding one. In the case of less perfect melodious intervals, as those of the third and sixth, the common element which links together the sequent clangs is less conspicuous. The author defines two degrees of natural affinity between sequent tones, as determined by this element of a common upper-tone. Clangs are related in the first degree, when they have two equal partial tones, the degree of affinity being, of course, greater when this common upper-tone is in the first and influential region of the series of upper-tones. The second or indirect degree of affinity belongs to clangs which are related directly in the first degree to the same third clang. By help of the first degree of affinity, it is possible "to construct rationally" the principal intervals of the major key, that is to say, transitions from C to E, F, G, A, and C. The less melodious intervals of the second and seventh, C–D, C–B, rest on indirect affinity, the mediating clang being the fifth of the tonic, or G. Similarly, the minor interval, C–A flat, may be regarded as a relation effected through the higher octave of the tonic, C.

Helmholtz seeks to prove the influence of this natural affinity between sequent tones, by means of a very learned and interesting examination of the various known melodic scales, ancient and modern. Into these verifications our present limits do not allow us to follow him. Suffice it to say, that he succeeds in bringing together an impressive array of facts in support of the view, that the human ear has always been guided, even if unconsciously, in the selection of tuneful sequence, by the action of these connecting upper-tones. The intervals most generally adopted in all systems, are precisely those in which the natural affinity is greatest, namely, the

octave, fifth and fourth; this last, moreover, having had an increased value as the fifth inverted (C–G inverted gives G–C). Thus we find that some of the oldest of known scales were simply successions of fifths (C–G–D–A, etc.), and so represented the closest degree of melodic affinity. Similarly, among the Gaelic scales, one is wanting in the third and sixth, another in the third and seventh, that is to say in the notes most distantly related to the key-note. At the same time, as Helmholtz reminds us, since this natural law of melodic affinity is itself of a very elastic character, we must not expect to find perfect uniformity among the several systems. He admits, too, that other requirements, besides those of melodic affinity, have served to determine the various forms of scales. Of these the principal one is the need of a continuous series of equal intervals, which may enable the ear to estimate the distance of all intervals by help of some simple unit of measure. This unit is, in our modern European systems, the semitone interval; and this limit was, according to Helmholtz, recognised in the fixed, as distinguished from the variable notes of the Greek scales. In modern Arabic music, again, the octave is divided into twenty-four quarter-tones. The delicacy of the ear's sensibility in discriminating the pitch of tones appears to have had only a remote influence on the construction of melodic scales, since it is known that the organ can distinguish much finer shades of pitch than either the half-tone or quarter-tone.*

Helmholtz employs the method of difference, too, in verifying his conclusions respecting the dependence of melodic pleasure on the influence of upper-tones. Just as the proper pleasure of harmony is wanting when the combining notes are destitute of upper-tones, so, he thinks, the proper pleasure of melody is wanting when the sequent notes are poor in the quality of timbre. A melody played on stopped organ pipes, or whistled with the mouth, does not, he says, afford a pure melodic enjoyment. If it be a familiar air which

* Helmholtz considers that the transitions of sequent chords, like those of single notes, are determined by a certain natural affinity, namely the common possession of some one clang. But this part of his exposition leads us into considerations of a more psychological or æsthetic character, and has but little connection with the physiological theory which we are now examining. Similarly, too, his discussions of the technical laws which control transition from key to key, and other processes of the art, though they frequently recognise the consequences of this theory, involve the consideration of other requirements which belong less to any peculiarities of our auditory organ than to the general laws of our emotional nature.

is thus played, the mind of the hearer supplies from its recollection the proper melodic character. But, strictly speaking, a sequence of simple tones, as distinguished from clangs, presents only a certain variation of pitch, and does not gratify the ear with the sweetness of melody.*

I have now given what I hope may prove a clear, if necessarily a brief, account of the several parts of Helmholtz's theory. It simply remains for me to sum up the essential meaning of his hypothesis, and to indicate its precise relation to pre-existing theories.

First of all, then, it is shown by this eminent physiologist that what appears to us to be a simple sensation of tone is a composite mass of sensations resulting from a fusion of a ground-tone and several feeble upper-tones, each of these elements being transmitted by a distinct nerve-fibre. Secondly, the harmony of two tones is referred to the purely negative condition of non-disturbance between the several prominent upper-tones of the two notes; or, since one finds that no simple or uncompounded tones, even though free from these disturbing elements, produce the full delight of harmony, one may say that harmony arises from the union of two masses of tone, each of which affects a plurality of nerve-fibres, and the elements of which are, in no case, so near to one another as to produce intermittent shocks of tone. That is to say, just as a single musical clang is demonstrated to be a complex product, so a harmony is proved to be a more complex product of this product. Finally, it seems to be demonstrated, that the pure pleasure of melody arises from the presence in sequent clangs of some common tonic element which serves to bind them together by a simple bond of sensuous resemblance. Each of these conclusions appears to be established by the most ample evidence, and they may be safely accepted by the psychological student as valuable data in the explanation of musical effect.

With respect to the nature of the feeling of timbre or clang, the theory of upper-tones is clearly another step in the direction of the analysis of our sensations. What seems to the untrained ear an indivisible and elementary feeling, is shown to be composed of many distinct sensations, which blend indistinguishably in a single mass of

* A striking exception to this rule is supplied by the octave. The second note of an octave-interval seems, to my ear, to resemble the first just as closely when the notes are whistled as when they are sung, or when they are played on a rich-toned piano. Helmholtz does not appear to have recognised this apparent difficulty in his theory.

tone. What subjective reflection failed to discover, physiological investigation and experimentation have brought to light. And accordingly, the psychological student will be ready to agree with the professor in saying, that this is a signal instance of the services which physiology is able to render to his own science.*

One may understand, too, by help of this theory, how it is that our sensations of clang contain a *mysterious* element. Although the common ear is unable to detect the presence of distinct partial tones, the existence of them may, nevertheless, make itself vaguely felt. It is natural to suppose, that since, with a certain amount of attention, one may come to recognise their number and variety, there is always a *tendency* in these separate impressions to rise into distinct consciousness. As I have shown in a previous essay, distinct sensation results from the union of two conditions, first of all, an external stimulation, and secondly, a certain freedom of the mind from pre-occupation and a conscious direction of attention to the impression of the moment. Now, as Helmholtz says, in the case of upper-tones, there has never been any practical need for the ear to attend to them individually; and it is owing to this fact that we are for the most part unaware of them. Yet, if we suppose these separate stimulations of distinct nerve-fibres to have a constant tendency to produce distinct sensations, we may argue that the conscious mind will be so far affected by these nervous actions as to be dimly aware of a plurality of feelings. And if so, it follows that we may experience a sense of mystery, a vague feeling of something not perfectly disclosed, such as we experience when observing a face in which some familiar feature is striving, so to speak, to arrest our attention, though we are unable to detect the precise source of the attraction.†

Let us now consider, a little more closely, the bearing of upper-

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* Helmholtz has well stated this partial dependence of psychological on physiological science in his *Physiologische Optik* (Dritter Abschnitt, § 26, *Von den Wahrnehmungen im Allgemeinen*), where the writer shows himself not incompetent to discuss such philosophical questions as the nature of perception, and the grounds of inductive inference. See, for a fuller account of his views, my paper on *Recent German Experiments with Sensation.*

† It is noticeable, however, that there is nothing analogous to this in the impressions of sight. Helmholtz admits that we are not in the least conscious of a plurality of sensations when we look at a purple or yellow tint. Yet this apparent discrepancy may perhaps be explained by the fact that the elementary fibres of the retina are equally distributed over the whole surface, whereas the fibres of Corti in the ear are arranged in a distinct serial order.

tones on the explanation of the pleasure of harmony. It is evident, in the first place, that the theory of Helmholtz directly controverts the old assumption that certain simple relations of time among the vibrations of concurring notes are the physiological cause of harmonic gratification. Two consonant notes afford pleasure, not because they affect two nerve-fibres in the particular manner implied in the ratio of their respective vibrations, but because each of them affects a plurality of fibres without producing any appreciable beats. The existence of a numerical ratio between the vibrations of two notes is a mark by which we know that they possess other elements of the required character. In other words, this numerical property of the combining notes is not the cause of the harmony, but simply a concomitant of its cause.

This theory of harmony, further, has both its negative and its positive side. In its *negative* aspect it attributes the pleasure of consonance to the absence of intermittent stimulation, which, by continuing to affect the nervous fibre without deadening its sensibility, is an excessive drain on its energies, and thus produces a teasing and harassing effect on the mind. And this part of the theory, which distinctly connects the effects of discord with a large number of well-known facts of nervous stimulation, and indeed with an accepted general law of nervous action, must be regarded as a highly valuable contribution to our knowledge of the precise form of connection existing between mind and body.

In its *positive* aspect, this theory lays down as the condition of harmony, the simultaneous excitation of two or more groups of nervous fibres by two composite tones or clangs. It may, no doubt, appear strange, on a first view of the matter, that, according to this supposition, we have nearly the same set of physiological conditions in the case of harmony and in that of single clang. Helmholtz supposes that a variety of non-disturbing elementary tones co-operates in each of these processes, the only difference being that in harmony there are two prominent ground-tones instead of one, and a greater abundance and force of upper-tones. Yet this difference of *quantity* in the nervous excitation may be supposed, without any contradiction, to correspond to a *qualitative* difference in the resulting sensation. One may reason, too, that in the case of chords, the distinct recognition of the separate clangs would be certain to lend to the impression a unique character. Even in the instance of a faint *arpeggio* chord, already spoken of, the ear can distinguish tones of very different pitch, though it is no

longer able to define their precise nature. Professor Helmholtz has been good enough to inform me, that he regards the sensations of clang and chord as different in degree only, and not in kind; and certainly to my ear, the feeling of a rich vocal clang approximates very closely to the sensation of harmony which I experience when the individual clangs are rendered inconspicuous in the way already described. But whether this difficulty with respect to the heterogeneous character of our sensations of timbre and harmony, is real or apparent, it does not tell especially against the hypothesis that the non-disturbance of the upper tones, rather than the numerical relations of the notes, is the ground of harmonic enjoyment. The same difficulty would have to be encountered on the old theory of harmony, now that the presence of upper-tones in single notes is an established fact. For the upper-tones of a note, in respect of the number of their vibrations, are always simple multiples of the ground-tone; and one would accordingly infer, *ex hypothesi*, that every such clang ought to produce a harmonic effect.

A final question connected with this theory of harmony is, whether it implies the presence of psychical activities as the intermediate processes between external stimulation and conscious pleasure. It has long been a favourite metaphysical theory, that the mental gratification or feeling of pleasure which accompanies an external impression, is the direct result not of the nervous stimulation, but of the action of the nervous process on the spiritual substance, and of its own reaction under this action; and this theory has frequently been applied to the solution of the question how harmonious tones produce their characteristic delight.

The fact that harmonious notes stand in a simple numerical relation to one another, with respect to their vibrations, was naturally made use of by metaphysicians in attempting this kind of explanation. Thus, for example, Leibnitz referred the enjoyment of musical impression to a process of unconscious reckoning. These writers did not reflect that the existence of a numerical ratio in the nervous processes is a matter quite unknown to the mind; and this mode of explanation suffers from precisely the same defect as certain solutions of optical questions: namely, those which proceed on the supposition that the mind of the percipient subject is directly cognisant of the arrangement of the retinal images.

A more elaborate theory of harmonic pleasure has been developed by Herbart. This philosopher seeks to derive all mental processes from the reciprocal actions of elementary feelings or conceptions

(*Vorstellungen*). Thus he supposes that when two impressions of comparable yet different contents, as two colours, reach the mind, the unity of consciousness urges them to a kind of mutual hostility. By means of this collision, a part of the fundamental conceiving activity is transformed into mere effort to conceive. The two feelings, moreover, suffer a loss in clearness in the inverse ratio of their strength. Tones he considers to be like each other in respect of height or pitch only. When two unlike tones reach consciousness together, their similar part (proximity in pitch) strives towards a fusion into one simple sensation, while their dissimilar part (remoteness in pitch) strives against this. Perfect harmony results when the latter force is strong enough to counteract this tendency to fusion, while discord arises from the continued strife of the two forces. This theory, however ingenious and subtle it may be, is obviously insusceptible of scientific criticism. Apart from the endless difficulties that arise in trying to apply it to the actual facts of harmony, it rests on no basis of phenomena, and has consequently no scientific claims on our attention.

The attempt to interpose some mental link between nervous process and pleasurable sensation has recently been renewed by one of the most subtle thinkers and polished writers among contemporary Germans; I allude to Professor Lotze of Göttingen. In a minute criticism of the theory of Helmholtz (*Geschichte der Æsthetik in Deutschland*, p. 279, *et seq.*), this writer gives it as his opinion that the nervous processes on which Helmholtz lays stress, do not suffice to explain the peculiar delight of musical effect. One needs to know, further, how these nervous events ("*des Geschehende*") can act on the mind, and in what manner they are received by it. The nervous disturbances, resulting from the intermittent shocks of atmospheric vibration, do not immediately produce the painful sense of discord.

"It is," he adds, "much more probable to me, that the material disturbance arising in the nerve brings forth only general symptoms of fatigue, effort, and heightened sensibility; and that, on the other hand, the specific æsthetic feelings of delight,* which attach themselves differently to different consonances and disconsonances, spring first out of the reciprocal actions of the *sensations*, after these have arisen in consciousness, or while they are arising. On this supposition, the second member of our double question would be answered in the affirmative: the æsthetic feelings are signs of a violence or of a favour which befalls not the nerve but the *mind*." †

* "*Wohlgefallen*," the word adopted by Kant to define the æsthetic species of pleasure.

† *Loc. cit.*, pp. 281–2.

These speculations appear to me to be an ingenious but futile attempt to rehabilitate the theory of Herbart in the light of the latest physiological discoveries. Of the reciprocal actions among impressions on which the Herbartian school invariably relies, we really know nothing; and it appears highly unscientific to introduce them as links in the explanation of phenomena. Helmholtz supposes that the nervous disturbance is an adequate cause of the feeling of discordance; and that the co-operation of several continuous nervous processes in distinct fibres is an adequate cause of the pleasure of harmony. It appears to me that this view is far more scientific than that of Lotze. The difficulty which is said to be felt here appears to be due to the inertia of inveterate habits of metaphysical conception—of the long-ruling speculative impulse to interpose some additional link between a bodily and a mental fact. There is, in reality, no greater antecedent difficulty in accepting the doctrine that multiplex, continuous and even stimulations of nervous fibres are the direct antecedent of a feeling of pleasure, than there is in believing that a certain mode of nervous stimulation is followed by a sensation of blue, another by a sensation of red, and so on. It is quite as easy for a mind, unembarrassed by metaphysical presuppositions, to conceive that pleasure follows immediately a certain combination of nervous stimulations, as to conceive that a specific sensation not distinctly pleasurable, as for example, an indifferent impression of colour, follows immediately some peculiar variety of nervous process. As soon as we grasp the truth that the mind and body which science deals with are not substances, but phenomena, and that scientific discovery is continually adding to our knowledge of the close dependence of the mental on the bodily phenomena, the inadequacy of Helmholtz's theory wholly disappears.

At the same time, we may learn from subjective reflection that there is a degree of psychical activity in all our perceptions of harmony. We must, no doubt, guard ourselves against the supposition, that any feeling of resemblance enters into the sense of harmony. The common upper-tone of two harmonious clangs is supposed to affect the same nerve-fibre; and, consequently, these equal tones cannot be separately heard, but simply unite in giving one increased sensation. But though we cannot assume the presence of any consciousness of likeness in the sensation of harmony, we may discover other modes of mental activity. For not only does the mind distinctly seize the separate clangs of a chord, but, as we have seen, it indistinctly seizes the separate tones of each clang. And it is possible, as I have before hinted, that this faint apprehension of a

multitude of elements, uniting without disturbing one another, lends something of their mysterious charm to the impressions of music, both to those of clang, and, in a higher degree, to those of consonance.

With respect, however, to the bearing of the theory of upper-tones on melody, one may observe that it distinctly involves the co-operation of a feeling of resemblance. Two clangs melodiously related to each other, possess a common element, namely, one or more upper-tones of equal pitch. And it seems reasonable to suppose that the main cause of the pleasure of melodious transition is the indistinct recognition of this resemblance. A partial discovery of some familiar element, for example in a new face, apart from its harassing effect on the intellect, is an occasion of pleasurable surprise. All transition from one feeling to another, resembling the former in some respects, and differing from it in others, is pleasurable. It has commonly been allowed that the perception of unity in variety is the essential ingredient in æsthetic appreciation. Accordingly, the pleasure of melody may be included in the higher class of æsthetic enjoyments. While the pleasure of timbre and of consonance results immediately from a favourable mode of nervous stimulation, the delight of melodious sequence involves a faint measure of conscious comparison and of recognition of the like in the unlike. Hence it constitutes in music the connecting link between the simple enjoyments of sensuous stimulation and the more complex enjoyments of beautiful form.

In conclusion, the reader may be reminded that the full mysterious delight of tone is not exhaustively accounted for by any considerations of nervous processes immediately preceding the sensation. The mystery of tone does not haunt the child's mind. It begins to exert its spell on the adult. Musical sensation, in the mind of a mature man or woman, is something more than the immediate result of external stimulation, however favourable this may be to the nervous substance. It involves the presence of innumerable adjuncts, namely, accretions of emotion, which serve to disguise its original character. The full influence of melody and harmony on the mind owes some of its virtue to dim recollections of past experience. And it is here, probably, that we must look for the characteristic mysterious effect of tone on our emotional susceptibilities. Mr. Spencer has indicated this line of inquiry in his highly interesting essay, *The Origin and Function of Music;* and we shall seek in another paper to follow the road he has so well marked out for us.

# ASPECTS OF BEAUTY IN MUSICAL FORM.

In the last essay we explored the physiological bases of music, groping, so to speak, amid the hidden foundations of the temple, and seeking, by slow conjecture, to gain some dim notion of its form. We may now pass, with the rough perception thus obtained, into the interior of the structure, in order to trace out, in immediate vision, its various details of form. That is to say, we may cease to think of tones and harmonies as resting on a substratum of nervous structure, and, accepting these modes of pleasurable sensation as elementary facts, may seek to rediscover a pathway to some of those bold and beautiful shapes which are preserved in the products of our modern art.

The study of the various elements of pleasing form in musical composition, is, no doubt, a matter of lively interest only to those who are familiar with some of the technicalities of the subject. Yet one may presume, perhaps, on finding to-day a considerable number of such persons among cultivated Englishmen. At the same time, one is disposed to think that many, besides conoisseurs, who rejoice in the subtle and mysterious influences of the art, will find it no ungrateful task to seek to give clearness and definiteness to those shadowy and fugitive intuitions, of the existence of which they are just aware when they listen to some well-known classic.

In examining the elements of musical sensation, we saw that the accompanying pleasure could not, in most cases, be traced to any distinct mental process. The gratification afforded by a perfectly harmonious chord, is due, so far as we can discover, to some direct law of nervous action. In the case of melodious sequence, we found that the resulting pleasure involves a nascent intellectual process, namely, the faint perception of a common element of tone in the melodious clangs. Hence we concluded that the sense of melody might be regarded as the initial stage in the appreciation of musical form. We have now to consider the various modes in

which this conscious comparison of elements enters as a distinct factor into the pleasurable effects of music.

In listening to a beautiful composition, a distinct and considerable element of gratification arises, as I have said, from a play of intellectual consciousness. I do not mean that to understand the technical characters of music, and to enjoy its beauties, are one and the same mental operation. The provinces of the connoisseur and the amateur are not co-extensive. Yet the activities of the two classes of mind are closely related to one another. If it is true that a well-trained student takes a technical or a historical interest in peculiarities of structure which have no æsthetic value, it is also true that the fuller the knowledge of a really fine work, the ampler will be the hearer's enjoyment.

The intellectual consciousness which subserves this enjoyment of music, is that which employs itself in searching for and recognising all the elements of musical beauty. Sensuous beauty presents, as we have seen, but a narrow field for this play of intellectual energy. A learned musician may, indeed, tell us where the sweetness of a melody lies, but he cannot explain to us why it works its mystic charm. On the other hand, the beauties of musical form are susceptible of exact study and definition. They are not isolated and mysterious qualities, but are to be found in slightly varied shape in all the arts. Contrast and symmetry, variety and unity, are common to all kinds of beautiful objects, whether natural or artistic. And these elements are discoverable in every worthy musical composition. The ear which drinks in only the delight of full clang and sweet melody, and does not note all the changing and yet blending aspects of musical form, feels, it is true, the distinguishing power of the art, but misses a refined satisfaction which survives the brief gladness of sensation, while at the same time it relieves and intensifies it.

The development of music may, indeed, be regarded as a gradual expansion of musical form. Without doubt, the progress of the art has added distinct sensations of tone and harmony, notably, by the enlargement of the whole scale, by the invention of instruments of widely different timbre, and by the introduction of many new elements of harmony and melody. But in a yet larger measure, all successive invention has aimed at a higher beauty of structure, at some new mode of combining musical elements which may supply a larger delight through the conscious appreciation of the like in the diversified.

It appears evident, then, that a study of the various aspects of musical form is indispensable to a just comprehension of the power which the art exerts on all cultivated minds.

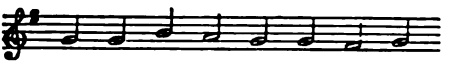
Music belongs to that great division of the Fine Arts which employs successive, as distinguished from coexistent, elements of impression. While painting and sculpture, as visible arts, present us in a single moment with whole objects the parts of which coexist in space, poetry and music disclose their objects gradually in their successive phases in time. This difference in the nature of the impression employed, affects, as Lessing so well taught in the *Laokoon*, the æsthetic laws of a particular art. Thus, with respect to music, one may see that, since the parts to be compared are fugitive impressions, some of which are far removed from one another in time, the æsthetic unity of musical composition will differ from that of a picture, in which the parts persist in immediate perception. The main peculiarity of musical form resulting from this difference of impression, may be described as its subtle and ideal character. While a picture or a group of marble displays, apparently, to the immediate sense certain contours and harmonious changes of figure, music reveals her tenuous shapes to quiet reflection through the medium of memory. In order to appreciate the structure of a symmetrical rondo or of a well-proportioned symphony, calm intellectual consciousness must supplement excited sensuous consciousness; ideal echoes of the swiftly vanishing tones must recur; and amid the innumerable sensations of clang and harmony, their fine-spun threads of continuity and order must disclose themselves to view.

It follows, too, from this peculiarity of tonic impression that the unity of musical composition may consist either in the likeness or symmetry of structure of the secondary parts, or in their similarity of direction. In other words, music may exhibit not only a beautiful *symmetrical* order analogous to that of visible art, but also a beautiful *progressive* order, in which its successive parts present themselves as phases of one continuous movement, tending, in spite of their superficial diversities, towards a common goal. In discussing the various embodiments of musical form we shall need to refer to each of these bases of unity.

While all beauty of form may be regarded as unity in variety, this attribute presents itself in various guises, according to the element or medium in which it is to be found. Hence, in studying the beauty of musical form, we need to consider separately the

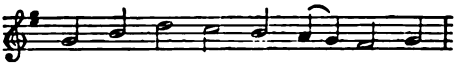
several phases of tonic impression in which the beautiful may present itself.

The property which appears most conspicuously to give unity and shape to music, is that of Measure or Time. Just as a certain spatial order is essential to the arts that gratify the eye, so a certain temporal order is a prime æsthetic requisite in the art which gratifies the ear with sequences of tone and harmony. The element of duration, being the common characteristic of all successive impressions, appears to supply to the sequent tones and harmonies of music the simplest and most obvious link of unity and order. All separate tones must be either long or short, and equal or unequal. As soon as a distinct consciousness of this property is attained, the mind of a listener naturally begins to compare the several impressions of a melodious sequence, so as to discover their relation to one another, under this aspect. Thus, the perception of measure may be regarded as one of the most essential ingredients in the appreciation of music. Indeed it is not easy to conceive any mode of enjoyment in sounds that would not derive some ingredient from this source.*

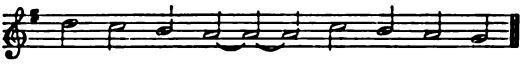
If we confine our attention to a single series of tones, that is, to melody, we may trace the perception of this unity and variety of time through several distinguishable grades of complexity. First of all, the sequent tones may be all equal, as for example in the passage:

In this case the element of time is a perfect unbroken uniformity, which is in itself monotonous, but is nevertheless pleasing as a half-disguised thread of unity holding together a melodious variety. While in this simple movement of church-music there are other points of unity, the likeness of duration is the most obvious and impressive aspect.

A slightly different perception of time is afforded by a series of

* On the supposition that music was at first simply the accompaniment and controlling influence of choral dance, it is clear that some simple arrangement of time must have characterized the art from its earliest stages. At the same time, the development of such a curious timeless style of music as that of Plain Song, shows that the feeling for time is not, strictly speaking, a necessary factor in musical enjoyment. See Mr. Hullah's *Lectures on the Transition Period of Musical History*, p. 8.

equal tones, one of which, however, is broken up or subdivided into equal parts, as for example, the following:

The peculiarity in this case is the comparison of a single tone with a plurality of tones in respect of their duration. While there is a prevailing equality of single tones, this simple standard of duration is applied, in one instance, to a combination of two half-tones. It is obvious that the introduction of such subdivisions, by adding an element of variety, and partially disguising the uniformity, adds also to the fineness of the æsthetic perception of time.

A very similar change in the appreciation of time takes place when the unequal tone is not a simple division, but a simple multiple, of the prevailing unit. Take, for example, the following:



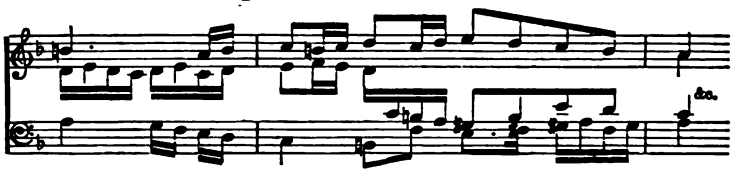
The prolongation of the fourth tone of this series does not unpleasantly disturb the ear, since the recurring unit, the minim, repeats itself ideally in the hearer's memory, and in this way the following note (C) appears to fall into the prevailing time-order.

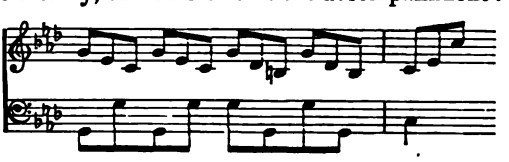
The variety is still greater, and consequently, the æsthetic perception more refined and agreeable, when both the elements of division and prolongation of the unit of time are united. I refer to the case in which a note is prolonged beyond the point of the recurring beat, yet not, as in the last instance, to a point coinciding with a following beat, but to one lying between two beats—as in the following example:

The crotchet here recurs in the interval between two mental beats; and this co-ordination of a movement in slightly disguised conformity with a simple order of time, illustrates the higher æsthetic perception of rhythmic unity in variety.

It is unnecessary to extend this illustration of the mode in which a series of tones falls into a prevailing order, while it retains great variety of duration among its individual members. The more complicated division of the unit into equal parts, as thirds, fourths, etc., or into unequal parts, as three-fourths and one-fourth, (♩. ♪), and the more elaborate prolongation of the ruling unit by means of ideal

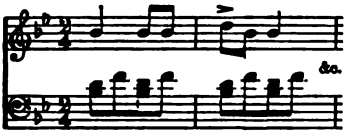
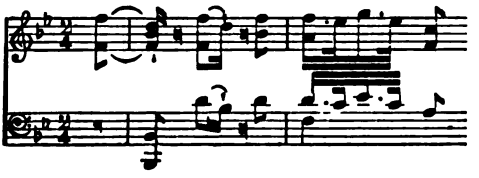
recurrence, whether in a sustained note or in a pause of the melody, give rise to innumerable combinations of notes in a pleasing subordination to a simple time-measure.

When two or more series of tones are combined, the scope for the æsthetic enjoyment of time is greatly increased. Each part having, to some extent, an individual temporal character, the mind of the hearer seeks to connect the various wanderings of the movement with one central line. And in this way the ruling order becomes much more subtle and impalpable. Thus, for example, while the unit of time is broken up in the higher series, it may be prolonged in the second series, or it may be broken up into unlike fragments, or may enter as a fraction into unlike aggregates in the different series; and thus endless variations of time-form become possible. The most elaborate illustrations of this complexity of time-order are to be found in polyphonic music, in which the separate parts have a certain amount of independent melodic character. This may be seen by a glance at the following bars, selected from the *Kyrie Eleison* in Mozart's *Requiem*.

Sometimes the prevailing unit may be broken up through a whole movement into unequal parts. In this case the uniformity of the recurring unit is distinctly recognisable, and yet the co-ordination of the unlike parts gives the movement a pleasing rhythmic variety as well as unity. As an illustration I may take a passage of the *Finale* (*prestissimo*) in the well-known Sonata of Beethoven in F minor (Op. 2. No. 1), where the crotchet unit is divided into three parts in the melody, and into two in the accompaniment:



A similar combination gives its peculiar rhythmic character to the second of the Fourth Book of Mendelssohn's *Lieder ohne Worte*.

Thus far we have considered musical time under one of its aspects only, namely, as a predominance of some simple standard of

duration throughout the successive individual notes. But similarity in time may connect not only single tones but also groups or series of tones. In other words, the ear may not only compare single notes in relation to some standard unit of duration, but also assimilate a series of two, three, or more of such units as equal in number, and, consequently, in their collective duration. In this manner there arises the musical Foot or Bar, which gives to music its distinguishing rhythmic character, as triple, quadruple, etc. This perception is not distinguishable, in its real nature, from that of time-agreements among single tones. It merely involves a higher degree of intellectual activity. This recognition of rhythmic numbers is commonly assisted by the distribution of accent. When the emphasis coincides with the initial tone of the bar, as in "good time" or *arsis*, the hearer's attention is called to the division of time, and the prevailing character is recognised. All the simpler movements, such as dance melodies, betray their rhythmic grouping in this obvious manner. The effect of such uniformly recurring series is to give a rhythm great clearness and a certain naïve simplicity. This may be illustrated by the well-known air of Mozart, which begins:

At the same time, in more complex melodies and combinations of movements, the prevailing number of tones does not obtrude itself so conspicuously, and the recognition of time has less of this distinct intellectual character, and becomes a vague pleasurable feeling of a general order. Further, the division of accent—which always helps to supply the ear with the division of time—seldom coincides with the division of bar, but occupies either a shorter or a longer interval of time. As an instance of a simple movement appearing to have a shorter foot than the division of the bar, I may select the opening theme of Dussek's *La Consolation:*

The effect of accent in marking off larger sections of movements will be spoken of presently.

It remains to examine the influence on musical form of Absolute Time, that is, of duration so far as it is determined by the absolute length of the prevailing unit. It is obvious that a composition which presents certain similarities of time among its successive parts, may be played in an indefinite number of ways, according to the rapidity of the unit, as minim, crotchet, quaver, etc. There is, no doubt, a natural basis for the limits of these varieties, in the nature of the nervous processes and of the mind's susceptibilities. When tones succeed each other too rapidly, the ear fails to distinguish them clearly, and the effect on the mind is either a purely sensational exhilaration or a painful sense of confusion and of excessive stimulation.* If, on the other hand, a note be prolonged beyond a certain point, the mind fails to estimate the precise duration, and the sense of time becomes faint. It has been suggested that the standard of quiet enjoyment, *tempo moderato*, coincides with the duration of a pulse-beat.† According to the prevailing time-intervals of a piece, as determined both by the ordinary temporal value of the prevailing note (as minim or crotchet), and by the special modification of this value through the prescribed time-character, as *presto*, *allegro*, *andante*, or *adagio*, it assumes a peculiar character, as highly stimulative, evenly flowing, or quietly gliding.

Finally, when, as happens in all larger compositions, several qualities of time are combined, and the movement passes through many distinguishable phases of rapidity, it becomes possible for the mind of the hearer to construct new aspects of time by a comparison of these alternating rapidities. Such changes give an important element of picturesque variety to a work of musical art; and their orderly arrangement invests it with those attributes of proportion and symmetry which are essential to all the higher æsthetic objects. Thus for example, the complicated structure of a sonata or of a symphony derives a certain aspect of proportion from

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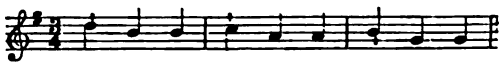
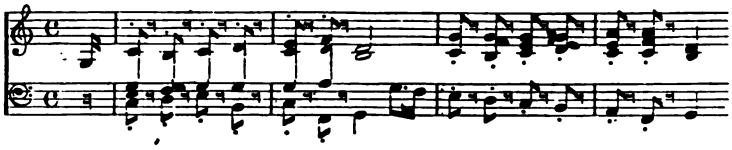
* It may be well to observe, however, that the ear's capability of following a rapid series of notes more than keeps pace with manual, not to speak of vocal, skill, in the production of successive tones.

† See a very interesting work on the laws of musical form by Hermann Küster, *Populäre Vorträge über Bildung und Begründung eines musikalischen Urtheils*, I. Cyklus, p. 6. I have taken several of my illustrations from these lectures.

the combination of the *allegro*, *adagio*, etc. So, too, a new aspect of organic unity may be imparted to a movement by a clearly discoverable progress of time, as from an opening slow passage up to a concluding rapid climax of tone. In this manner elements of time subserve both the symmetrical and the progressive aspects of musical unity.

The discrimination of these several features of time seems to be a possible attainment for any lover of melody, quite apart from technical knowledge. No doubt special culture considerably refines the sense of time, and enables the ear to detect shades of inequality which the untutored amateur would never notice. The agony of a *chef d'orchestre* is a mystery to most of his complacent audience. So, too, an acquaintance with the exact numerical relations of notes will sometimes remove a sense of confusion, as in listening to a simultaneous combination of triple, with double or with quadruple time. Yet the true enjoyment of this ruling principle may easily be attained simply by hearing good music frequently and attentively. By this means the mind acquires certain permanent ideas of time which serve it as a standard for estimating any new composition. Thus, the ear may gradually learn to appreciate the various shades of time, as wildly rapid, calmly measured, or gravely slow. In a similar manner differences in the elaboration of time-relations may be perceived, the simple, easily comprehended movement being distinguished from the more intricate combination of time-intervals. By these processes the ear gradually acquires a habit of anticipating a certain time-character and law of measure in every new composition; and where these elements are found to be present, they appear to stamp the piece with a definite character, and to render it, in a sense, an intelligible language.

The quality of Emphasis or Accent in music is so closely connected with that of time as to require but little separate examination. Contrasts and similarities of accent would not of themselves supply the ear with an appreciable enjoyment. They are of value as serving to render clearer the elements of unity and variety in time and rhythm. The periodic recurrence of a certain accent, whether in verse or in music, marks off the division of time, or the measure, of a movement. Hence, the superior value of arsis or "good time" in music. In this way a series of notes of perfectly equal duration may fall into a pleasing rhythmic movement, the alternations of accent serving to remove any appearance of the monotonous. This may be illustrated by the following example:—

It is obvious, moreover, that by an indefinite number of combinations of accent of several degrees of force, much longer series of tones than those of single bars can be made to assume like phases of time, while by the same means the movement becomes endowed with a far higher degree of variety. An instance of such rhythmic distribution of accent may be found in the beautiful *andante* of Beethoven's Sonata, Op. 14, No 2 :—

The recurrence of the grave accent after the light staccato clearly helps to divide this passage into two symmetrical parts.

The quantity and mode of distribution of accent in a piece serves to impress on it a certain character, the full meaning of which will be spoken of in the following essay. A considerable amount of pleasing similarity amid diversity may be afforded by a due arrangement of the various modes of accent in combination with the duration of notes. Thus, for example, a transition from *piano* to *forte*, or an alternation of grave and prolonged, with staccato notes, supplies a movement with a new element of pleasing variety, while the orderly sequence of grades of musical force from quiet repose through *crescendo* changes up to a concluding outburst of tone, or through such a climax back to the initial repose, imparts to a movement a certain degree of progressive, and even of symmetrical unity.

A wide field for the conscious appreciation of artistic form is supplied by the musical element of Pitch or Height of tone. The perception of this property by a cultivated ear is a very different thing from the organic sensibility spoken of in the last essay. First of all, culture renders the ear discriminative of finer shades of pitch among notes. The practised ear of a violinist is tortured by inequalities that wholly escape the attention of an ordinary listener. In the second place, the learner acquires a permanent memory of the familiar scale of notes, through which all impressions of pitch become transformed into apparent intuitions.

The reasons which have led to the adoption, by the modern music

of Europe, of our familiar diatonic scale, in which the semitone is the minimum interval, offer a curious subject of study. In Oriental Music, both ancient and modern, these limitations are unknown, while even among ourselves the occasional cadence of a voice or of a stringed instrument in continuous shades of tone shows that the ear is capable of appreciating much finer nuances of pitch than that of a semitone interval. As both Helmholtz and Lotze remark, the great æsthetic value of our arrangement appears to be due to the fact that it supplies the mind with a simple unit of tonic measurement, by help of which the distance of all intervals may be exactly appreciated. Familiarity with this simple system tends, by a curious mental operation, to artificialize our natural sensibility to pitch. An impression of tone calls up in the mind of a fairly cultivated amateur, faint ideal representatives of its contiguous tones, both above and below. Two principal results follow from this mental process. First of all, our notion of pitch, from being relative, becomes apparently absolute. We are able not only to distinguish one tone as higher than another, but also to pronounce a tone high *absolutely*. For the mind now possesses ideal copies, so to speak, of the scale of tones in sufficient number to afford a permanent standard of pitch; and any new impression of tone is at once, by a rapid intellectual process, compared with this familiar level, and recognized as low, high, or of medium pitch. Secondly, the possession of this musical memory enlarges and renders more precise the ear's sense of interval. Every transition presents itself to the practised ear as a multiple of the semitone unit; and in process of time the mind gradually learns to estimate very wide intervals of pitch, by means of a rapid ideal re-instatement of a few, if not all, of the intervening tones.

When this delicate feeling for height is acquired, the mind is able to appreciate what may be called the Geometric characters of music. I refer to all the aspects which it assumes as analogous to visible movement, namely, changes of direction, height, curvature, etc. Every interval of pitch presents itself under two aspects, those of length and direction. In addition to the feeling for distance just spoken of, the ear possesses a sense of direction, by means of which all transitions from a given note to notes of more rapid vibrations present themselves as upward movements, while transitions from a note to others of less rapid vibrations shape themselves as downward movements. Of the complete significance of this perception, I shall have occasion to speak by-and-by. It follows

from this that there may be resemblances, in respect of direction, between intervals of very unlike extent; and that, conversely, intervals of equal extent may be unlike in their direction. In this way a musical composition acquires certain geometric aspects. The ear is able to trace out a number of half-hidden resemblances in the direction of a movement, to note how a melody, amid all its seemingly free wanderings, moves through a certain order of curve, alternately rising and falling through greater or lesser intervals in a graceful serpentine line.

Numerous illustrations of this geometric symmetry are scarcely needed. If the reader will study the simpler kinds of rhythmic melody, as those of the dance, he will find that a part of their clearness and simplicity is due to a parallelism of successive groups of tone with respect to direction and extent of interval. Thus, for example, the following triplets exhibit a very simple mode of geometric uniformity.

Even when the melodic movement is much less regular than this, and wanders more freely through unlike intervals, one may frequently observe a recurrence of like linear form; and these parallelisms serve to impart a pleasing aspect of order and unity to the movement. In contrapuntal music, where two or more series of notes are simultaneously combined, the material for such resemblances and diversities of shape is considerably enlarged. In proportion as the several parts of a polyphonic composition move in parallel lines or curves, or, on the other hand, in converging or diverging directions, the composition is simply uniform or picturesquely varied. A little attention to a choral or instrumental fugue, or even to a quartett for stringed instruments, may show the reader that a considerable element of the picturesque in musical form is due to happy combinations of the elements of height and change of pitch or interval.

It should be noticed, too, that owing to the existence of a certain mediate range of notes, within which music, following vocal utterance and the leading of the ear, most commonly confines itself, the element of pitch supplies a roughly defined point of departure and of final repose for musical movement, and so embodies one phase of progressive unity. A melody which moves unrestrained through vast intervals of pitch, tends to revert to a

region which is more familiar and restful. By this means music gains a new phase of continuity and order; since the ear dimly traces out in anticipation the order of progress of a movement from its quiet levels through unwonted depths of strange tone and through lofty heights of triumphant force, back to the level of repose. The extension of the scale which has followed the growth of instrumental music, has vastly increased the area of these picturesque sweeps of tonic movement. By an occasional transition to the indistinct and unfamiliar regions of tone, a composition acquires a certain strange impressiveness, while the other parts are rendered more lucid and simple in contrast to these.

Out of these elements of time, accent and interval, grow all the Rhythmic properties of music. By happy variations of movement with respect to direction and length of interval, held together by a discoverable law of number and measure, and still further marked off by various degrees of accent or force, Music might supply a mode of graceful tonic rhythm analogous to the subtly interwoven visible movements of the dance. Yet she would still be wanting in the highest beauty of musical form, in that quality which distinguishes melodic and harmonic sequence from everything material and visible. Just as the sensuous element of tone supplies the first and fundamental pleasure of the art, so it contributes a chief ingredient to its formal beauty. We saw in the preceding chapter that the sense of Melodious Sequence involves an indistinct consciousness of unity in variety, since the two notes of a melodious interval always contain some common partial tone. We may now consider the mode in which this consciousness becomes distinct, contributing a proper æsthetic element to the enjoyment of music.

Whereas a transition from a note to one different in pitch is simply an agreeable change, a passage from one clang to another melodically related to it affords a unique musical pleasure. This feeling, moreover, admits of many distinguishable shades according to the closeness of the bond of "natural affinity" which connects the tones. Thus, for example, the interval C-G is a more pleasing unit of melody than the interval C-A, and still more pleasing than the interval C-F sharp. Accordingly, as the ear learns to detect all the numerous shades of melodic affinity, it acquires a new standard by which it may estimate the quality of a musical theme. Every sequence of tones acquires some degree of pleasing familiarity, or of impressive strangeness, and a due variation of these elements

affords a full musical enjoyment, sensuous as well as æsthetic and intellectual. Further, when the ear is able to recognize the exact shade of melodic quality in an interval, as that of the fifth, fourth, etc., it discovers numberless points of likeness in the successive steps of a movement, and in this way various sequences of notes become united under another pleasing aspect of artistic unity.

The simplest form of such Melodic Uniformity is supplied by the recurrence of a melodic interval or series in precisely the same order, and in the same octave, an element of variety being supplied by the introduction of subordinate and *ornamental* notes. Thus, for example, the two parts of the following series:

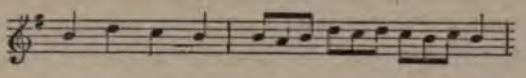
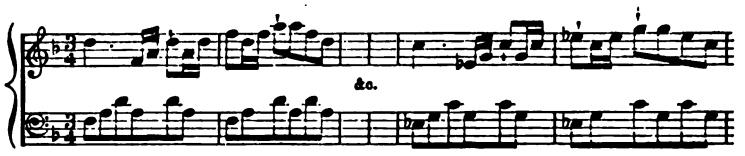
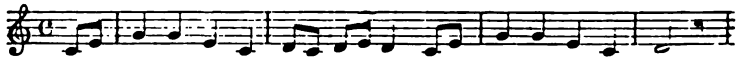


exhibit the same melody, slightly disguised in the second bar by the addition of the figurative notes. This mode of melodic resemblance is very conspicuous in the works of Haydn and Mozart, and forms the basis of Musical Variations.

A different form of melodic similarity presents itself when a given movement is transported into another region of tone, by the selection of a new initial note related to the first. The most obvious illustration of this mode of melodic variation is afforded by the repetition of a sequence of tones in a higher octave. The octave of a note is not only its closest melodic correlate, but also, in a sense, the same note in another locality. Hence to repeat a form of movement in different octaves is to preserve the greatest amount of melodic uniformity. When the timbre of the notes, as well as their height, is different, such a parallelism affords a very distinct pleasure, as may be seen in choral song and in orchestral music. The presence of melodic unity in diversity is, however, scarcely distinct till the initial notes of the parallel passages are qualitatively different. The simplest example of this melodic correspondence is an unbroken succession of fifths, fourths, etc. Such a series sounds, no doubt, very monotonous to a trained ear, and yet one may find in the classical writings of Mozart and Beethoven brief passages of just this simple character. A melodic parallelism becomes more pleasing when it connects, not pairs of tones, but longer series. A natural melodic order of tones is that of the common chord, namely, the third, fifth and octave; and a melodious combination which moves through this simple order may be reproduced in a slightly

altered form, by simply changing the initial tone. For example, in the opening *Allegro* of Mozart's sixth Sonata, one finds the following parallelism among many others:

Every student of music is aware how frequently a simple melodic phrase is repeated with a slightly different starting-point, as for example, the fifth or fourth of the first note. Indeed, the developments of melody display conspicuously the æsthetic value of such discoverable resemblances. A common change of movement in all the simpler forms of song is from a melodic series in the order of the common chord of the tonic, to a corresponding series in that of the fifth of the tonic. For example, a German *Volkslied* which begins with the following simple melody,

goes on to repeat a part of this melodic movement in the key of the dominant (G).

Another example of such simple melodic parallelism, disguised, however, by a happy admixture of variety, may be found in a well-well known song of Mozart, which begins as follows:—

In the higher styles of composition the same thing is observable. In the picturesque windings of an aria or of a sonata-melody, the recurrence of similar melodic phrases in related keys is a source of a distinct æsthetic gratification. In polyphonic music, again, one may see the influence of this æsthetic principle in the laws of fugue-structure, according to which the leading theme has to be resumed by another part, either in the same key or in a related key, namely, that of the fifth or dominant.

These melodic variations and symmetrical combinations, however influential in the total effect of music, do not constitute the whole charm of melodic form. As I have already remarked, a chief element of beauty in sequent groups of æsthetic impressions is the presence of a point of final repose, towards which all the steps ot the movement may be seen to lead up. We discovered an imperfect form of this progressive side of musical unity in the arrangement of tones with respect to a final and restful level of tonic height. A far more potent influence in uniting the successive parts of melodic structure is supplied by our system of Tonality, which erects a certain note, namely, the tonic or key-note, into the ruling member of the series, the point of departure and of final repose in melodic movement.

Our modern Key-system, major and minor, appears to owe its æsthetic value to three circumstances. First of all, it supplies a central point to melodic movement, about which it may wander, and towards which it may tend as its resting-place; secondly, it affords as the framework of melody, a series of tones closely united to one another by natural affinity;* while, finally, it furnishes an ample range of movement of fairly equal gradations.

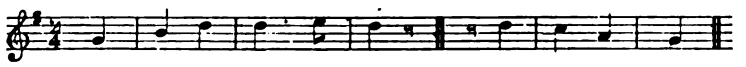
The erection of a particular tone into a unique prominence and supremacy appears to a modern ear an essential element of all melody; and one finds, as a matter of history, that even in the rudimentary scales of the Greeks, a special honour was given to the middle tone (μέση).† In our modern system of major and minor keys, the relation of the successive steps of a melody to the tonic is made more distinct by the addition of harmony and determining chords. In simple movements it is the presence of one key-note which defines the steps of the melody. In by far the largest number of cases melody sets out and returns to the same note. By the same note I mean, of course, a given note, such as C or G, in any octave. I have already remarked that the octave of a note holds a unique melodic relation to it, by reason of which it is called by the same name. Hence, there is a number of notes, as $C_1$, $C_2$, $C_3$, etc., which

* As I remarked in the previous essay, Helmholtz seeks to construct both the major and minor modes of scale by means of two degrees of natural affinity. In the minor key the successive notes have less melodic affinity with the tonic, and to this fact seems to be owing the characteristic obscurity and elegiac sadness of this scale.

† Aristotle has some curious speculations on the reasons of this supremacy. See Problemata XX. and XXXVI., quoted by Helmholtz.

may alike serve as resting-points, though the range of these is limited by the demands of a familiar level of tone already referred to.* In the smaller number of cases in which the initial and final tone of a melody does not coincide with the key-note, it falls on some closely related note, namely, the third or fifth, which by its constant presence in the chord of the tonic acquires a representative character in respect of the key-note. Further, our tonic system allows of transitory changes of key, through which a melody gains, not only greater variety, but also new points of departure and repose. In this way a movement may make, so to speak, a temporary halt, lingering in some related major or minor key, and so fall into distinct passages, each of which has its own circular route to and from its key-note. In other words, in addition to the larger and permanent controlling point of rest, modulation in other keys supplies subordinate and temporary controlling points.

There is little space here for illustrations either of the progressive unity or of the symmetry thus given to melody by the dominance of a key-note. A very simple sequence of tones becomes pleasing when thus confined in one progressive order, as may be seen in the Swiss *Ranz des Vaches:*

The melody becomes more picturesquely varied and symmetrical when it falls into two parts, of which the first has its own temporary repose. The most common case of such division is when the intermediate point of rest coincides with the dominant, as in the following series.

Here the whole movement falls into two melodic phrases, of which the first is a departure from the tonic (G), in the direction of the dominant (D); and the second, a return from this point of momentary sojourn to the primal resting-place. Thus it possesses a simple progressive unity while it presents the hearer with distinct

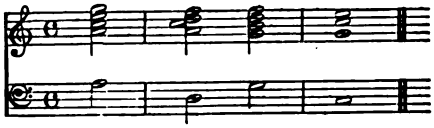
* Owing to this fact of the perfect resemblance of a note to its octave, the progress of the tonic scale is alternately towards and from the point of repose. Accordingly, it has been represented by one German writer as a spiral curve winding about a vertical cylinder.

and well-balanced parts. And the same holds good of all the more complex groupings of melodic phase.

I may conclude this account of the aspects of melodic form, by referring to the effect of culture on the perceptions of these characters. Just as familiarity with the whole series of scales supplies the mind of a hearer with definite ideal standards of height, etc., so a knowledge of the tonic system supplies it with a new standard of melodic form. In attending to a new composition an amateur instinctively seeks to discover the ruling key-note, and, retaining this in memory, he views all successive phases of melody in relation to it. Every clang in the melodic series is faintly estimated as a correlate of the tonic, or of some new note which temporarily fills the place of the tonic, and thus clearer intuitions of melodic character are obtained. Further, through the retention of this dominant element, the hearer instinctively anticipates a final return to the same point; and to this fact are due such effects as the ear's dissatisfaction at too long a sojourn in a foreign key, the slightly teasing yet pleasantly stimulative impression of a partial but illusive conclusion, and the deep content it experiences at the realization of the final repose.

The nature of Harmony, as a form of immediate sensuous pleasure, has been sufficiently discussed in the preceding essay. We have now to consider it as an element of musical form.

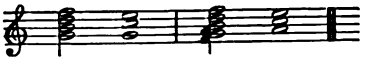
The intellectual ingredient in the perception of harmony begins with the discrimination and recognition of definite shades of this quality. When this capability is acquired, music presents new aspects of clearness and simplicity, and of obscurity and mystery. In this way, for example, the bright clear chords of the major are distinguished from the gloomy and troubled combinations of the minor. And thus music gains, with the addition of harmony, a new element of variety and of unity. A change from pure harmony to disturbing discord constitutes the strongest form of musical contrast. Passages from the perfect harmonies of the major common chord (C—E—G) to less perfect accords afford elements of variety and artistic relief. On the other hand, sequences of chords of similar harmonic character manifest a certain æsthetic unity. Finally, a movement which passes from imperfect to perfect harmony, or through the three phases of initial clear harmony, mediate temporary discord or clouded harmony, and final perfect harmony, presents a pleasing mode of progressive unity. All students of music know how the introduction of obscure chords at the commencement of a piece stimulates expectation, while the addition of them to a con-

cluding passage serves to lend the final rest a more impressive and satisfying character. This last may be illustrated by the common appearance of the imperfect chords of the seventh before the final chord:

Another aspect of chords which enters into musical form, is their richness or fulness. From the simple union of two notes, as those of an octave or of a fifth, up to the combinations of many notes of different quality and pitch, there presents itself a gradual scale of harmonic value which serves to stamp musical composition with a part of its variegated character. This quality is very analogous to that of timbre—as follows, indeed, from the composite nature of the latter. In choral and orchestral music the alternations of lighter passages—in which melody, accompanied by a slender by-play of tone, predominates—with sequences of rich full harmonies impart a fine æsthetic character to the composition. Further, as elements in the effect of climax, gradations of such full powerful chords supply another standard of the progressive side of unity of composition.

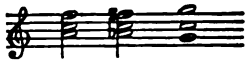
Once more, chords do not follow one another simply according to their degree of harmonic resemblance. As is well known, sequences of perfectly similar harmonies, as fifths, are actually forbidden in music. Progressions of chords, like sequences of single clangs, are governed by certain tonic relations. I do not mean by this that chords have to adjust themselves in agreement with the ruling melodic theme, but that, quite independently of the leading melody, they have to succeed one another according to laws of affinity. Just as melodic affinity between two clangs rests on the presence of some common upper-tone, so chordic affinity rests on the presence of some common clang. Two chords, says Helmholtz, are related in the first degree, when they have one or more tones in common; in the second degree, when they are both related in the first degree to one and the same chord. Thus C—E—G and G—B—D are directly related while G—B—D and A—C—E are indirectly related through D—F—A. By a discrimination of the various degrees of such melodic affinity between chords, the mind is able to appreciate new aspects of musical clearness, variety, and progress.

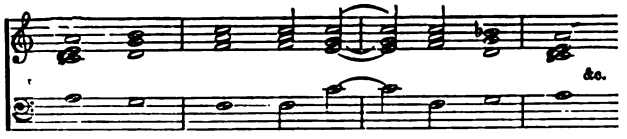
Musical culture has yet another effect on the perception of har-

monic form. By retaining in memory the most common transitions, a learner comes to anticipate certain sequences of harmony. It is this fact which enables the composer to introduce temporary discords. As every student knows, discords, being painful sensations, cannot be employed arbitrarily, but only as transient steps of a movement, in which case their harshness is softened by an ideal element, namely, a clear anticipation of the succeeding harmony. The common mode of introducing discords is by what is called suspension. This occurs when a certain expected or even necessary progression is delayed, by one part remaining stationary.* A suspension has three parts, namely, the preparation by a preceding chord, the retention of a note of this chord in the next chord with which it is dissonant, and the resolution of this dissonance by the transition from the discordant to the expected note. The following are examples of this process.

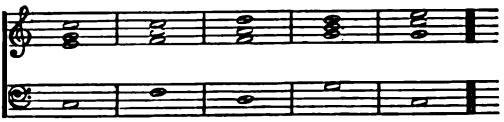
In the same way, any other discord, as that of the seventh, has to be first prepared and afterwards resolved, so that it may not appear too harsh and foreign, and further, may *suggest* to the ear its speedy resolution into a pleasing sensation. The succeeding harmony in this case is not directly presented to the ear, as in the case of suspension, but is strongly suggested to it, either through its affinity or through its close contiguity to the existing chord. An example of each of these processes of suggestion may be found in the common mode of resolving the chord of the seventh, and of the diminished seventh.

This last consideration leads us to the reflection that the progression of chords, like that of single tones, is affected, not only by melodic affinity, but also by contiguity or nearness of pitch. A succession of notes may pass smoothly through the intervals of the diatonic scale, and even through the steps of the chromatic scale, though melodic relation is here almost entirely wanting. Similarly, chords may move through chromatic passages with a fine musical effect, though there is in this case no common note in the successive harmonies. Such a transition, by supplying a perfectly new, though

* If the part in question is expected to descend one note, it is called a suspension, if to ascend, a retardation.

closely contiguous, series of tones, is very rich and impressive, as every extemporiser on the organ knows. A familiar example of this chromatic change may be found in the chord of the augmented sixth:

The influence of contiguity is seen very conspicuously in the peculiar character of the leading tone, that is, the seventh of the tonic, which, as is well known, must always ascend to the tonic just above it, and which affords in its powerful suggestion of this tone the keenest form of musical anticipation.

Thus far we have been inquiring into the character of harmonic sequences, without any reference to melodic unity. Yet it is evident that so far as chords accompany and help to sustain a melody, their order will be limited by the requirements of melodic movement, more especially by its tendency to revert to a final key-note. In the history of music we find that the first tentatives of harmony were singularly deficient in this melodic arrangement. Thus, for example, the rich harmonic sequences of Palestrina were moulded on the old church key-systems, and their unmelodic character to a modern ear may be seen in the opening of his eight-voiced *Stabat Mater*.

The development of melody, especially in connection with the opera, served to fix the present forms of our major and minor keys, and at the same time to limit the order of harmonic progression. It is obvious that, according to the principle of affinity already spoken of, chords may move through a far larger variety of transitions than are allowed by the notes of a single key; for our key-system is the result of affinities of notes with one fixed note, whereas the affinity of chords is determined by the common possession of any note. Hence, as harmony becomes a support to melody, it loses something of its rich variety. The free employment of modulation no doubt compensates for this to some extent; yet it may be said that the most various and impressive harmonic transition is realized when melodic unity is less conspicuous. Further, unity of key not only shuts out many otherwise legitimate transitions of chord, but re-

quires transitions which are not natural, such as that of the leading tone.

Yet if harmonic progression loses something by subordination to melody, this union of the two elements is a great gain to artistic form. It follows from Helmholtz's theory of upper-tones that the notes of our ordinary chords, more especially those of the common chord (C—E—G), arise from the intensification of partial tones already contained in the bass note. To this circumstance is due the peculiar value of the bass note as the foundation and support of the chord. Thus, while the highest series of notes, through its superior clearness and penetrating character, appears to be the proper seat of melody, the bass series, through the peculiar relation of its notes to those of the higher parts, presents itself to the ear as a row of audible pedestals of which the chords are the columns. Accordingly, the distinct utterance of these fundamental notes appears to give a certain clearness to a sequence of chords. In the case of the common chord, in which the lowest note is also the root, the whole harmony seems to spring out of the fundamental bass clang. Hence the special clearness that belongs to a succession of such chords, as, for example, the series:

Further, since with the frequent employment of harmonic music, all the notes of a scale become associated with particular fundamentals, they acquire a new and quasi-melodic character. They are now referred not only to one and the same key-note, but also to different notes which, in a secondary sense, are their tonics. Thus, for example, in the scale of C, while all octaves of the C and E are instantly connected by the hearer with the fundamental key-note (C), the B's and D's are connected with the dominant (G), and the A's with the subdominant (F). More than this, it is possible, even within the limits of a single key, to co-ordinate the same note with different roots. Thus, for example, G may be regarded as an offshoot either of the tonic C or of the dominant G, of E minor, or even of A. So, too, the descending interval C—A in the key of C, may be viewed as an element either of the common chord of F major, or of that of A minor, or

even of the chord of the seventh of D minor. In this way the addition of harmony to melody gives it a far more manifold and picturesque character with respect both to progress within a single key and to transition of key. Accordingly, a subtle and intricate melody seems incomplete until it is accompanied by these elements, which, like the co-ordinates of a curve, appear to determine the varying positions of its successive points. Most of us, perhaps, have observed what a perfectly new shape a vocal melody of Schubert or Mendelssohn assumes, when accompanied with those delicate harmonic modulations which the composer originally united with it. So, too, in the case of instrumental melodies, such as one finds in the sonatas of the great masters, the slight accompaniment of bass and running chords serves, not only to mark off more distinctly the time-relations of the movement, but also to indicate its changing key-phases. The occasional addition to a violin solo of a pianoforte chord helps to guide the ear in recognizing the changing aspects of key which the wandering melody successively assumes.

Thus it appears that while harmony, as a mode of musical sensation distinct from that of melody, is to some extent circumscribed by its subordination to melodic movement, it may nevertheless, even in this combination, attain a high degree of picturesque variety, the artistic excellence of which is a vast addition to simple melodic beauty. While, therefore, harmony and melody will always be sharply distinguished impressions, and in their pure forms, supply a valuable element of musical contrast and relief, they may yet realize a high artistic result in a happy combination, in which melodic sequence reigns supreme, yet receives an added lustre from the half spontaneous play of an attendant harmony.

Thus far I have been speaking of the elements of musical form regarded as isolated phenomena. This constitutes the Analytical part of our inquiry. There remains a second and Synthetical part, namely, to trace out the various combinations of these elements in musical composition. Space does not permit us to do more than just glance at a few of these.

Musical composition may be conceived as built up of certain Thematic units, that is to say, of simple movements having a certain character of time, accent and melody, and bounded by a distinct beginning and end. As a familiar illustration, one may take a line of a psalm tune, or of a popular song. The melodic series may be incomplete, the concluding pause being only partial and transient; yet it is sufficiently developed to constitute a distinct phase or section

of a melody.* It thus serves, as a certain portion of a Greek temple, say one of the pediments or one of the series of columns, as a perfect factor of the artistic structure. We will now briefly trace out a few combinations of this musical unit.

The co-ordination of two or more such members or clauses results in what has been called a Musical Sentence. The second member may have a close parallelism with the first, not only in its length and in the aspects of its time, accent, etc., but also in its melodic character. Thus, for example, a series of notes may be reproduced in a slightly different key-relation, as in the couplet:

Or it may serve as a counter-movement, as in the couplet:

When the second member is thus strongly contrasted, the symmetrical unity of the movement is commonly supplied by a return to the original movement, whether in its exact shape, or in a modified form.

Thus there are two distinct methods of arranging compound series of tone in a pleasing aspect of artistic unity: that of Parallelism in which the elements of unity and variety are supplied by the same member; and that of Alternation of movement and Reversion to the first form, in which they are supplied by different members. Out of numerous combinations of these simple elements, all distinct forms of musical composition may be seen to arise.

Several such simple members as those just considered make up a Theme. By this term is meant a melodic subject which is made complete by the presence of a final repose. It thus corresponds to a distinct paragraph in verbal composition, having a number of constituent sentences closely connected with one another. The parts of a theme may be very unlike one another in their melodic character, being held together simply by a rhythmic unity of time and accent; and, further, the divisions of these successive parts may be very slightly marked, so that they appear to blend in one continuous movement. In these cases it is the sustained progressive

* It is obvious that the length of movement selected for this unit is to some extent an arbitrary matter. The simplest measure of length, perhaps, is that which corresponds to a line of a song. Yet even this short section may present a subdivision of rhythmic and melodic parts.

aspect of the succeeding parts, with respect to climax and final repose, which constitutes their uniting spirit, though even here unobtrusive parallelisms of time and form of movement contribute a part of its pleasure to the resulting æsthetic perception. At other times a theme may pass through sharply separated and very similar melodic phrases and even return to a previous phrase, as in the well-known opening to Beethoven's Twelfth Sonata, where the first member

is paralleled by the third member—

Just as several musical clauses and sentences may be co-ordinated in a certain pleasing order of rhythmic and melodic phase, so whole themes may be linked together in longer and more complex compositions. And here, too, the consecutive series may serve either as elements of æsthetic contrast and of picturesque variety, or as corresponding divisions of a perfectly symmetrical movement. The first result is effected by means of a counter-theme having a distinct melodic character; the second, by a transformation of the original theme into a slightly different musical shape, whether by variation, that is, an addition of figurative and ornamental details, or by modulation, that is, a transposition of the melody to a different key, as from C major to its related A minor. Again, in the grouping of distinct themes, it is possible to unite the elements of contrast and repetition, by what is called the development of one theme from another. As every extended theme consists of several distinct movements, the composer may enlarge and vary some one of these so as to construct out of it a counter-theme. Abundant illustrations of this artistic device may be found in the movements of the best sonatas and symphonies.

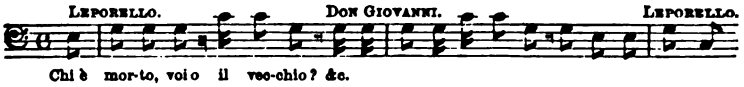
Just as distinct movements may be arranged in pleasing artistic sequence, so they may be combined in graceful simultaneous series. To effect this mode of co-ordination is the aim of polyphonic music. In this order of composition, which plays so prominent a part in the earlier developments of modern music, we have presented to us a highly intricate plexus of distinct rhythmic and melodic series, in which, with all the picturesque variety of the different parts, numerous like phases betray themselves. Those frequent repetitions

and imitations of the leading theme or counter-theme by the several combining parts which characterized the early canon and fugue, supplied abundant material for the discovery and appreciation of subtly disguised artistic unity.

We may conclude this slight inquiry into the beauty of musical form, by briefly examining a few of the leading types of musical structure as exhibited in the best varieties of composition, vocal and instrumental. We may conveniently begin with the standard forms of Vocal Music, setting out with the Homophonic or uni-serial, as distinguished from the Polyphonic or multi-serial species of melody.

The earliest and simplest form of structure in vocal music is that of the Song. In the most elementary variety of this species there presents itself a series of two, three or four rhythmic and melodic divisions, either equal or unequal in length, the whole concatenation of which constitutes a distinct melody corresponding to the poetic verse to which it is attached. The whole song thus consists of the recurrence of a simple melodic movement, divided into a few like rhythmic sections. Within these brief limits there is but little room for the play of thematic variation, though similar melodic phases frequently occur in the movements even of the simplest songs. For instance, the first and third members of the melody may be unlike, while the second and fourth coincide, constituting a recurring refrain. If a greater variety of rhythmic phase is desired, a strophe of the melodic verse may be lengthened and varied by a repetition of a word or clause, or by a prolongation of the same syllable through several consecutive notes. That is to say, musical form is enriched by a momentary sacrifice of poetic form. But the characteristic of the popular, as distinguished from the artistic, song, is the perfect union of melody and of poetic thought under a simple rhythmic law of verse. The gradual addition of harmonic accompaniment, whether vocal or instrumental, served to elevate the whole æsthetic character of the structure, without materially affecting its melodic form.

A very different melodic structure presents itself in the Recitative. Here music has to adapt itself to a free excursive mode of verbal utterance, which offers but little opportunity for rhythmic equality and pleasing repetition of melody. The irregularity of the verbal structure precludes anything like rhythmic order; and the slight amount of organic unity to which this species of composition can lay claim, is due to a simple melodic relation of the successive steps. Frequently, indeed, the movement consists of such elementary

melodic intervals as those of the third and fifth. Thus for example one finds in *Don Giovanni* a passage of a dialogue between the hero and Leporello running as follows:

Thus it is obvious that in the recitative, musical form is largely sacrificed to the ends of distinct verbal expression. Whereas in the simple song the aims of melody and poetic expression are pretty fairly balanced, in this slight musical transformation of speech, melody rather follows obediently the changing phases of the sentiment.

A higher variety of vocal composition, which seeks to combine the artistic symmetry and completeness of the popular song with the freedom of expansion and of variation of the recitative, is the Aria. In this type of structure we observe, not a monotonous recurrence of one simple melody, but an ample yet orderly variation of melodic movement according to the changes of sentiment and thought of the successive strophes and verses. Thus, the aria retains something of the equal rhythmic measure of the song, while it gains in addition a large artistic value through its amplitude of melodic change and development.

The transition from the simple song to the aria is suggested by the Elaborated Song, or the song "composed throughout" as the Germans express it (*durchcomponirt*); that is to say, one in which the successive verses receive distinct melodic treatment. It is to be expected that in this species of song, which seeks to make music a more exact interpreter of sentiment, the various strophes of a single verse will present very unlike rhythmic and melodic characters, through the repetition and prolongation of the more important words and clauses. Lovers of modern German song will hardly need to be reminded of the numerous examples of this extended melodic development contained in the writings of Schubert, Mendelssohn, and Franz. For instance, Goethe's *Erlkönig*, with its sudden and powerful changes of emotion, has received this more careful method of musical interpretation from three different composers, namely, Reichardt, Löwe, and Schubert.

In the Dramatic Aria, again, we have presented to us a still more elaborate development of melody. More full and imposing in character than that of a song, the sentiment of a lyrico-dramatic utterance is

favourable to greater amplitude, variety, and freedom of rhythmic and melodic form. Its mode of structure, being unfettered by the limitations of the equal verse-form, and allowing of frequent variation of movement by enlargement and repetition of melodic phrase, possesses fine capabilities of extended melodic development. At the same time, there presents itself in these compositions a clearly recognizable division of parts, each of which has its own thematic form, and moves in its own key; and it is the due adjustment of these sections in pleasing sequence—so that they may appear to lead up naturally to the final movement—which confers on this form of composition its artistic beauty. Thus the melody of an aria, though greatly limited by the progressive changes of the sentiment expressed, has a rich picturesque beauty of its own. While it lacks something of the clear symmetry and palpable regularity of the equal song, it half betrays underneath its variegated surface delicate aspects of order. Though it appears, on a first view, to wander perfectly unrestrained in a number of unconnected excursive movements, one may detect the action of musical gravity in a continual tendency to revert to a dominant time, key, and melodic phase, or a uniform progress towards some final mode of movement.

By wide and ample modulations, by occasional playful lingerings amid attractive phases, by rich evolutions of one form of melody from another, and by the addition of well-timed impressive instrumental harmonies and connecting passages, the aria attains a certain majestic beauty, which is wanting in melodies more regular and less involved in structure. As examples of such fine melodic evolutions, I may point to the airs of Mozart's *Don Giovanni*, of Gluck's *Iphigenia in Tauris*, and of Haydn's *Creation*, as well as to those of the oratorios of Handel and Mendelssohn.

In those compositions which employ co-ordinations of several series of tones, new elements of structure present themselves. When the combined parts constitute an accompaniment to a leading melody, as in simple choral music, the harmonies serve, in the way already indicated, to enrich the formal beauty of the movement. It is, however, in the polyphonic style of music that we see the greatest transformation of musical form. When melodic themes are taken up by distinct parts and interwoven in subtle braids, we have an enlarged sphere for the evolution of musical form. In the convivial Round, in which each voice chases, so to speak, the different movements in the same order; in the Canon, in which a whole movement is repeated by a second part; and in the several varieties

of the vocal Fugue, in which movements are transported by a second part into the key of the dominant, or repeated in fragments and slight variations, we have a series of vocal compositions which allows of a greater and greater measure of melodic symmetry and of artistic unity in variety.

As the last and final development of vocal music we may take the Dramatic Chorus which unites within itself the possibilities of melody, harmonic progression and polyphonic combination. No one who is familiar with the choral masterpieces of the opera and the oratorio will fail to see how ample a field for melodic development, variation, and symmetrical arrangement, this species of composition offers. Yet even here, one has to recognize the limitations imposed by the expressive function. The sequences of theme and counter-theme, and of contrapuntal complexity and harmonic simplicity, are largely determined by the unfolding character of the thoughts and sentiments, and not simply by the requirements of beautiful form.

Thus far we have been watching the unfoldings of musical form in connection with lyric and dramatic poetry. We have seen that in vocal music melody has striven, so to speak, to realize its full capacities, attaining, in the one direction, a high degree of simple and severe regularity, and, in the other, a considerable measure of plasticity and versatility. We will now proceed to examine one or two forms of Instrumental Music, with the view of discovering the relative capabilities of these two domains, in respect of the artistic beauty of musical form.

Instrumental composition is the offspring of vocal, and exhibits, in its earlier varieties especially, a close resemblance of structure to its parental form. As an example of such composition, we may take the Rondo. The peculiarity of this form is that the movement recurs again and again to a principal and initial melodic phrase. The proper antecedent of this form in vocal composition is the roundelay, in which, after each strophe of the song, a chorus interposes with the same refrain. In vocal music this repetition is obviously conditioned by the nature of the sentiment to be expressed, since the periodically returning refrain must convey some leading thought, or dominant emotional phase. In the instrumental rondo on the other hand, the employment of such a rounded form is not thus limited. Provided only that a melodic subject is striking and worthy of the prominence thus given it, the treatment of it as a central point from which the successive waves of melody may all radiate, and to which they may finally return, opens up possibilities

of a high degree of pleasing variation and of artistic symmetry. As examples of finished and graceful forms of rondo, I may name the well-known *Adagio* of Beethoven's *Sonate Pathétique*, the *Andante un poco Adagio* of Mozart's Sonata in C major, and Dussek's composition for the piano, *La Consolation*. A higher measure of artistic unity is realized when the several excursive movements seem to spring naturally out of the leading and recurring subject, as occurs in Mozart's Rondo in D major for the piano. Thus the rondo satisfies, in a higher degree than any of the forms previously considered, both the tendency of the song-form to move symmetrically through like phases, and that of the aria to wander freely through a picturesque diversity of phase. And for this reason it may be regarded as a higher artistic development than any form of vocal melody.

A higher structural development of instrumental music presents itself in the Sonata-form, that is to say, the type of compound movement which is the basis and germ of the Sonata and Symphony. This structure consists of three principal parts. The first of these is a movement in the tonic which passes by modulation into the key of the dominant (from C to G); or if the tonic is minor, into the key of the relative major or into the minor of the dominant (from C minor to E flat major or to G minor). This part is commonly repeated. The second large division is closely knitted to the first, though it moves through another and related key. If its initial key is major, it passes into the relative minor or into the minor of the mediant (from C major into A minor or E minor); if minor, into the minor of the dominant, or into the relative major (from C minor into G minor or E flat major). This part is generally the most elaborate and artistically impressive. The third part answers to the first, only that instead of seeking repose in a foreign key it gradually reverts to the ruling tonic. Further, both the first and third parts consist of three distinctly marked thematic movements, of which the second is a contrast to the first and the third either a repetition of the first, or a new movement uniting in some measure, the characters of the two previous movements.

I have not space to describe the details of these several divisions and subdivisions, so far as they present tolerably constant laws of form. Suffice it to say that this type of structure offers scope, not only for ample change and uniform progress of melodic movement through numerous keys, but also for rich harmonic passages, for the co-ordination of distinct movements in polyphonic order, and for the repetition and variation of melodic phrases by figurative accessories.

In its numerous changes of key, moreover, especially in the second part, it presents fine examples of gradual melodic transition and of the evolution of clear thematic form out of temporary chaos. Finally, as a large and richly variegated form of structure, it is favourable to the finest effects of introduction, or the progressive revelation of the supreme movement, as well as of a gradual and peaceful subsidence to the final silence, through extended conclusion or *Coda*.

As examples of this form the reader may be referred to the opening *Allegros* as well as to many of the *Adagios* of the best known classical sonatas for the piano, especially those of Bach, Haydn, Mozart, and Beethoven.

This brief survey of the sonata-form may serve to show what an advance this species of structure exhibits on vocal forms, both in quantity and complexity, and in masterly co-ordination and artistic finish of details. It is obvious, too, that this mode of structure unites within itself a still larger number of elements of beauty than that of the rondo. This latter, though exhibiting frequent change of movement, is rendered incapable of extended melodic progress by the continual necessity of reverting to the leading movement. In contrast with this, the form of the sonata reveals endless progressive transitions, in which all the capabilities of theme and counter-theme may reveal themselves, and in which the ear is led unerringly through long mazes of melody and harmony to the final and crowning stage. At the same time, this form retains a considerable measure of symmetrical division and co-ordination, so that it presents itself to the appreciative hearer as a well-balanced group of the most various and finely wrought musical figures.

In the fuller structure known as the Sonata, we may observe a still more complex development of musical form. As is well known, this species of composition commonly consists of three parts: an *Allegro* in sonata-form, an *Adagio* or *Andante* in variations, in rondo-style, or in short sonata-form, and a *Finale* in form of rondo or of sonata. To these a *Scherzo* or *Minuet*, in song-form, is frequently added. These several parts are in most cases strongly contrasted in time and thematic character. The chief link of union between them is supplied by affinity of key. Further, they present in their order—namely, a bright opening movement, a slow and quiet subject, and a final rapid movement—a clear and transparent proportion of parts. It is obvious that this extended variety of composition affords a far wider scope for free change of theme, for

alternation of style—as for example, of homophonic with polyphonic, of simply melodic with richly harmonic—and for brilliant variations and co-ordinations of key, time, etc. It follows, too, from the nature of this structure, that the connecting links of repetition, parallelism, and variation of rhythmic and thematic phase, will be much more subtle and disguised, and that the main part of its organic unity (apart from anything beyond itself which instrumental music may be capable of expressing) will be due to an orderly and well-regulated progress through diverse regions of time, key, etc. Thus, the whole composition will present the aspect of a richly-varied tone-creation, in which all the forces of melody and harmony are striving in happy co-operation to contribute their full sum of sensuous and intellectual delight.

Finally, we have presented to us in the orchestral Symphony a yet grander development of musical structure. The co-operation of many instruments of very unlike timbre opens up new possibilities of melodic and harmonic combinations, and of more intricate interweavings of distinct melodic filaments. In this sovereign instrumental structure all the resources of melodic variation, harmonic progression, and polyphonic involution, have unlimited play. Its ample dimensions allow of the strongest contrasts of musical light and shade, of clear melody and harmony with strange perplexing combinations of tone, as well as of abundant variety and orderly balance in time and in key; and in its totality it shapes itself to the hearer's mind as a noble concrete embodiment of all aspects of musical form, worthily and happily combined.

Thus it seems manifest that the most perfect realization of structural beauty and sublimity possible to music is attained by instrumental composition, in which there are no limiting conditions of definite expression, but in which every device of change in melody and harmony, in tone-colour and time, may be freely resorted to, while at the same time all the ends of pleasing symmetry and just proportion of parts are fully satisfied. Without doubt, a large measure of such grandeur of form is attainable by vocal music, especially in the complex dramatic structure of the opera and oratorio; yet the pursuit of perfect beauty of form is always limited in these cases by the need of clearly defining the shades of thought, and of duly expressing the successive phases of changeful emotion.

Our inquiry seems to have brought us to the conclusion that music in its free and independent development is susceptible of a

high degree of Architectonic beauty. There is clearly a parallelism between music and architecture in respect of the combination and grouping of various parts of the structure. Omitting all reference to the laws of fitness—which is to architecture what expression is to music—one may say that in both arts a main source of æsthetic delight is the combination of many distinct forms in a pleasing organic whole, so that the eye or the ear may be able to trace through all the subtly interwoven lines and curves, visible or audible, a certain symmetry and a subordination of parts to a fine total effect.

At the same time, there is a noteworthy difference between music and architecture. In the latter the elements of form compose the whole of the artistic product. In following out the varying yet harmonious contours of pediment and capital in a Greek temple, the eye receives all its gratification from the ever-varying yet well-balanced movement into which it is so agreeably coerced. On the other hand, the ear derives its first and chief delight from the melodic and harmonic impressions which are the units of audible movement.

To this it should be added that while an architectural whole is immediately present to perception, the successive parts of musical composition do not admit of this rapid and simultaneous appreciation. Hence, though a visible structure must necessarily offend if it does not present itself as a symmetrical whole; a musical structure, when large and complicated, can better dispense with these uniting and formative aspects.

Illustrations of the truth here set forth may be found in the history of musical composition. Thus, for example, in one stage of its development, music attended exclusively to mere elegance and correctness of form, and failed to attain anything permanently impressive. I refer to the artistically constructed polyphonic music of the first period in the modern history of music. No doubt such forms of structure as the elaborate canon and fugue afford great interest to the student of music, and yield an appreciable gratification to the fairly intelligent lover of art; but the absence of delightful melody, not to speak of the frequent want of harmony of combination, renders them rather the study of the connoisseur than the enjoyment of the amateur. Again, the development of music illustrates the play of an impulse to dispense with close organic unity. I refer, not only to such unscientific modes of structure as that of the *Pot-pourri*, but also to the recognized forms

of the Suite in which a number of distinct melodic movements are loosely chained together. Even the classic forms of the sonata and symphony themselves, illustrate in the comparative independence of their component structures, this endeavour to loosen the fetters of form so as to realize the fullest and richest variety of melody and harmony. Finally, we may observe in the most recent developments of instrumental music the results of an impulse to strike out new and freer forms of structure, which may afford, with a certain amount of unity and balance of parts, a larger variety of melodic and harmonic light and shade.

It appears, then, that music may be injuriously bound by rules of exact symmetry, so as to be impeded in the discovery of new tone-shapes, in which exquisite combinations of sweet and strange impression, as yet undivined, may gladden and thrill the susceptible ear. Some degree of beauty of form is, of course, of the very essence of the art. Every movement is subject to laws of time and tonic unity. Yet provided these are satisfied, music has a large scope for free combination of distinct tonic phases. In the following essay we shall inquire how far this liberty in combining melody and harmony receives justification from a consideration of the nature and conditions of musical representation.

# ON THE NATURE AND LIMITS OF MUSICAL EXPRESSION.

Music, as I sought to show in a previous essay, affords three distinct orders of gratification. First of all, in its discrete tones, and in its melodic and harmonic combinations, it satisfies seemingly simple sensibilities of the ear. Further, in its arrangements of these tonic elements under certain forms of time, accented rhythm, key; and modulation of key, it presents numerous beauties of symmetry and unity, which gratefully employ the intellectual faculties. Finally, as most are agreed, it exercises a mysterious spell on the soul, stirring deep currents of emotion, and awakening vague ideas of the Infinite, the Tragic, and the Serene. We have been examining the first and second aspects of musical effect in the preceding essays, and we will now occupy ourselves with the third ingredient, confessedly the most subtle, and the one most fitted to elude scientific detection.

To define the precise functions of Music, and to fix its place in a scheme of Fine Arts, has proved one of the most intricate problems in that intricate science, first named by Baumgarten, Æsthetics. And this difficulty may easily be seen to spring from the unique character of the art. While the arts of Painting, Sculpture, and Poetry are distinctly concerned with representing some facts or aspects of nature, material objects or events in human life, Music appears at first sight to have no such representative aim. Indeed one finds that some writers—for example, Zimmermann—have contended that the whole province of this art is to construct, in perfect freedom from ulterior claims, the most beautiful arrangements of tones and harmonies. A curious illustration of the perplexities to which the subject of the exact function of music has given rise may be found in the classification of the arts proposed by Schopenhauer. Setting out from his two fundamental conceptions, Will, the thing in itself or noumenon, and Idea, the immediate objectivity of Will in a particular stage, he ranks all the other arts according to the gradation of Idea which they severally represent. But as he could

not well fit music into this scheme of objectified Will, he resolved to accord to this form of art the dignity of imaging, not Idea, but Will itself.

At the same time, a deeper reflection has suggested that music, while superficially opposed to the imitative arts, has at bottom certain subtle affinities with them. So distant a thinker as Plato, though he discarded the idea of a musical art independent of poetry and dance, saw that it might be made an instrument of moral culture, because of the affinities existing between rhythmic and harmonic (melodic) movement and the motions of the soul. Aristotle, whose estimate of Art was so much higher than Plato's, sought to bring music under a conception of artistic imitation (μίμησις) by attributing to it, apart from words, the power of representing human actions, dispositions (ἤθη), and feelings. Similarly, among many other modern writers on æsthetic subjects, Kant and Hegel have distinctly recognized that music has to embody and pourtray the subjective and emotional life of the mind.

Yet even now there is but little definite agreement with respect to the precise scope of musical representation. Not to dwell here on the question revived by the school of Wagner, whether music is capable of representing anything worthy and satisfying if divorced from words, I may point to the doctrine proclaimed by Weisse, that the art of tone is not concerned with imaging any definite activity, whether of material nature or of mind, but aims at symbolizing the universal relations of all activity; and to the courageous assertion of Hanslick, that while the art is wholly unable to represent feeling—since every emotion rests on definite ideas and judgments—it is able to symbolize, by the analogy of audible figure, made up of the height, strength, rapidity, and rhythm of sequent tones, the visible movements of external nature.

In view of this general uncertainty as to the precise significance of musical sounds, if indeed there be any such significance, it might well appear a little rash to attempt a new solution of the problem. Yet a reason for doing so may, perhaps, be found in the fact that a more promising direction has recently been given to the inquiry by the attempts of Mr. Spencer and Mr. Darwin to connect musical effects with a long series of ancestral experiences, human and, probably, pre-human, the results of which are now transmitted to the new-born individual as deeply organized associations. What the exact amount of truth may be in the particular mode of derivation resorted to by each of these distinguished biologists, need not now

concern us.* It is sufficient to say that in the conception of musical effect as a psychological product, in the growth of which vocal phenomena play the most conspicuous part, a new and sure road seems opened up by which one may reach a scientific basis for this interesting æsthetic problem.

On first reflection, one may fail to find anything suggestive in a long sustained musical tone or chord; and certainly these sounds are sufficiently unlike the common every-day voices of nature. It was said, indeed, by Lucretius that music distinctly imitates birds; and one can readily imagine a child's mind impressed by the few faint analogies which music and spontaneous vocal sound so obviously offer. Yet the fact that the resemblance between musical tones and natural sounds is so slight and superficial is not so detrimental to the art as might at first appear. By leaving comparatively unoccupied the perceptive activities which employ themselves on objective facts, the elements of tone offer more scope for the play of the subjective and emotional nature. This may be illustrated by contrasting tones and colours. Some writers, Kant among others, have supposed that it is possible to construct a colour-art (*Farbenkunst*), analogous to the tone-art; and, indeed, a certain abbé actually attempted, in the beginning of the last century, to invent an instrument, after the manner of the piano, for giving a rythmical and harmonious sequence of colour. Without denying the possibility of such an art, one may call attention to the fact that artistic colours, being for the most part perfect copies of natural tints, would, in such combinations as are here proposed, necessarily convey to the mind more or less distinct suggestions of objects, and consequently would make too large a demand on the percipient, and leave too little room for the sentient activities of the mind, to supply an æsthetic impression perfectly analogous to musical effect.

In music, then, the intellectual activities are not called away to objective realities underlying the impressions, and have to find their satisfaction in observing those formal aspects of the impressions themselves, of which I have given an account in the foregoing essay. Hence the comparatively subjective character of this art, and the peculiar depth of emotional delight which it is commonly said

* Mr. Darwin attributes the deep emotional effects of music to associations which have grown up with vocal expression during the interchanges of sexual feeling, whereas Mr. Spencer would connect them with the vocal utterance of emotion in general.

to minister. This subjective effect, moreover, is not so simple as it might at first appear. Every strong and full sensation not only involves an intense element of feeling in itself, but, acting as a stimulus to the cerebral activities, produces indirect emotional effects. Thus, a powerful and sudden flash of light affords, together with a visual sensation, a wide emotional agitation, which is betrayed by numerous movements of the trunk and limbs. In addition to the intense but limited consciousness implied in the sensation, there is the diffused consciousness implied in the general excitement following. In the case of music this double effect is easily recognizable. A powerful and sustained tone, a full chord, and a rapid series of such chords, illustrate a rising scale both of sensational and of general emotional intensity. It is not simply quantity of sound which determines the range and duration of this secondary effect. The peculiar timbre of some instruments, as, for example, the violin, appears to aid this result. There are certain tones of this potent instrument which, without awakening any distinguishable variety of emotion in my mind, always seem to "go through me," as the common expression well describes it.*

This double aspect of sensuous pleasure is the first and fundamental fact in the explanation of the unique influences of music. Without it there does not seem any mode of accounting for the deep range and mysterious vagueness of its effects. But this is only one step towards the needed solution. A second question arises as to the particular direction in the emotional and ideal regions of the mind which these secondary waves of tonic effect are likely to take. Are there, it may be asked, any facts in the peculiar construction of the human mind which would point to definite channels for this diffused stream of mental activity? In order to solve this point, it is simply needful to recall the general physiologico-psychological truth, that streams of nervous influence, wherever set up, tend to rush with greatest force into channels which lie in the closest organic connection with the initial channels, and that mental agitation, however stimulated, tends to transform itself into definite feelings which are most intimately associated with the original feeling.

The reader will have anticipated that this line of inquiry brings us to the vocal phenomena made so prominent in Mr. Spencer's

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* Hence Mr. Spencer hardly seems quite exact in affirming without qualification that the human voice is necessarily the most effective of instruments.

theory of music. That musical tones present the closest analogies to the human voice as affected by emotion and serving as its expression, and that in this manner the art is able to stir so many recognisable shades of emotion in the listener's mind, has been recognized more or less clearly by the majority of writers on the subject, whether speculative or critical. Indeed, the common modes of describing the effects of music, employing as they do analogies drawn from the outpouring of joy and grief in vocal sounds, appear to point very distinctly to this interpretation of musical symbols.

The conclusion to which a subjective analysis of musical effect appears to lead us is confirmed, moreover, by the history of the genesis and development of music. Its earliest forms seem to have been simply slight intensifications of that natural cadence and rhythm which a flow of emotion impresses on vocal utterance. Not even discrete tones of uniform pitch were at first employed, the melodies of this primitive song sliding continuously through all gradations of pitch, just as one finds occurring to-day in Oriental music, and in many of the popular airs of Southern Europe as sung by the native peasants. This *naïve* form of art, moreover, was uniformly accompanied by dance or rhythmic movements, the whole play of voice and moving limb serving to express the varying phases of some internal sentiment. The long processes by which the art has grown from this rough shape into the elaborate forms familiar to ourselves, in which range of pitch, time, melody, harmony, and co-ordination of simultaneous movements have been carried to so great a complexity, at the same time outgrowing the capacities of the human voice, may be regarded as a slow tentative progress towards the realization of the fullest and most varied beauty of tonic form. But has this progress involved a *pari passu* decline in expressive power? As the germ of musical art has become gradually loosened and separated from its natural stem, has it lost the most essential characters of its parentage? And, if nôt, by what means has the representative function been preserved, and, it may be, enlarged?

Recalling what has been said respecting the wide stimulative effects of musical sensation, one may readily see that even if modern music is in external form far removed from pre-artistic and spontaneous vocal utterance, yet if it presents beneath its characteristic differences multitudinous faint analogies to this natural utterance, it may still be capable of reviving vast regions of emotional consciousness. Even if less definitely like vocal expression, and

more subordinated to laws of form and beauty, it may still be fitted to produce deep and wide effects on the human mind as an *indirect* exponent of its feelings and thoughts.

Now a careful consideration of the structure of music, as we now know it, can hardly fail to convince us that underneath so much that is purely artificial, or rather artistic, there lie deeper traits which still link the art with the simple instinctive activities of the human voice. A brief account of these, then, will constitute our next step towards a comprehension of the highest significance of complex modern music.

The analogies between music and natural vocal sounds may be found both in the elements of the art and in its combinations or arrangements. The former, again, may be subdivided into *direct* and *indirect* resemblances. Among the points of direct resemblance I should reckon pitch of tone, intensity or emphasis, timbre, change of pitch or interval, as great or small, and duration and rapidity of tone. All these properties present themselves, with tolerable distinctness, in natural vocalization, where they indicate, in their ever varying degrees, the multitudinous subtle changes of our inner emotional life. Thus they serve to bridge over, so to speak, the chasm which seems at first sight to divide the regions of natural expression and tonic art. With respect to pitch, it has been remarked that spontaneous emotional utterance commonly produces a gradual sliding of continuous tone rather than a series of tones of distinct pitch. Yet, as Mr. Spencer has shown, even in every-day vocal expression, especially of the more excited and energetic kind, one may notice leaps of the voice through wide intervals. Further, with attention, we can easily detect in voices familiar to us some characteristic prevailing height of tone, deviations from which, whether above or below, indicate transitions of mind from a calm, even condition to one of agitation. The variations of timbre in the human voice accompanying changes in the prompting feeling are very curious. Indeed it seems as though peculiarities of vocal timbre, as for example, in the whining cry of pain, and the cooing sound of tenderness, serve, quite as much as changes of pitch and force, to indicate the qualitative peculiarities of our feelings. Finally, changes of emphasis and of rapidity in vocal sounds obviously correspond to changes in the intensity of the emotion expressed. Thus, a large number of well-marked musical properties have their prototypes in aspects of natural vocal sound, and to this fact is due a considerable part of the emotional influence of music.

Movements which are rapid and emphatic, and which extend through a wide range of pitch, become slightly representative of excited emotional expression, whereas slow, quiet, and gently gliding movements appear to typify the calmer utterances of an equable mind. Sometimes this imitation grows more distinct, and the melodic passage becomes an echo of some definite phase of vocal expression. Thus, for example, in sliding cadences, as of the violin, in marked changes of instrumental colouring, and in chromatic as distinguished from melodious movements, musical composition occasionally approximates to distinct expression. Yet such effects are only transient, and if too frequent, are incompatible with proper musical form.

In the elements of music having *indirect* affinity with vocal sounds something is due to analogies, not between different impressions of sound, but between these sensations and other orders of feeling. Thus, for example, melodious sequence owes a considerable part of its expressive character to its peculiar pleasurable effect on the mind. It may, no doubt, be true that even this distinctive property of music was first suggested by natural vocalization. For example, many spontaneous forms of expression appear to employ the interval of the fifth (C—G). It is presumable, indeed, that apart from the possible action of natural and sexual selection, peaceful emotional expression would, through a semi-conscious control of the will, tend to fall into forms most grateful to the ear, so that the most melodious intervals would become the most natural, that is, the easiest for vocal execution. At the same time, the emotional effect of artistic melody involves a link of indirect analogy. When an interval is sweet and natural, or strange and harsh, the slight amount of direct resemblance between it and vocal sounds, to which I have just referred, leads the listener to interpret the whole of its pleasurable or painful character as vocal and expressive. That is to say, a strictly tonic effect in melodic interval becomes translated into the expression of a happy or of a sorrowful shade of feeling, even though in natural emotional utterance this particular sequence rarely if ever occurs. Similarly with the harmony and discord of simultaneous tones. The co-ordination of two or more tones of different pitch, intensity, etc., was probably first suggested by the common phenomenon of sympathetic vocal expression by different persons. And similarities and contrasts in the pitch, intensity, direction of interval, and rapidity of two or more series of tones, clearly have their *direct* analogies in varying relations among

the simultaneous utterances of several voices. Thus, the convergence of two series from a wide interval to perfect unison, or from greatly unequal to equal intensities or rapidities, directly resembles the familiar vocal accompaniment of those interchanges of emotion which make up a considerable part of simple social life. And so it happens that the new and artistic ingredient of harmony, with its painful correlate, comes, in the same manner as the element of melody, to *simulate* an analogy with vocal expression. A pleasing harmony seems to be the equivalent for happy emotional agreement of two voices, while a disagreeable discord appears to pourtray their painful emotional disagreement. A third musical quality which becomes in a similar manner transformed into a seemingly vocal one, is tonality, or the ruling of a fundamental key-note. This element, too, may have been first suggested by the medium pitch which the spontaneous voice customarily adopts. As a point of quiet repose after wide elevations and depressions, this habitual level of voice seems to furnish the prototype of the restful satisfactory key-note. And if this is so, we may readily understand how it happens that we attribute a vocal significance to the elaborate relations of key, regarding each note of the scale as the equivalent of a certain vocal transition from the medium and normal pitch of quiet customary expression.

It need hardly be said that the complete simulation of these attributes of the natural voice by the artistic inventions of melody, harmony, and key, has been rendered possible by the long predominance of song, as the earliest and most popular variety of music. Such artistic experiences add new affinities and associations to those of pre-artistic and natural experiences, confirming the tendency of the listener to interpret every aspect of musical tone, by whatever instrument produced, as the rough symbol of a vocal utterance.

Passing now from the elements employed by music to the combination and co-ordination of these in artistic composition, one may find still further points of affinity with instinctive vocal action. Although a finished song, say one of Schubert or of Mendelssohn, not to speak of complex instrumental compositions, may at first seem to be very unlike a chain of vocal utterances prompted by changing feeling, there are, nevertheless, in the ordering of musical parts, distinct analogies to the sequences of sound produced by the natural voice. Thus, for example, one may find both in natural vocal sounds and in musical sequences, not only great variations in the force, pitch, and rapidity of the sounds making up the

series, but also a certain duration of the whole, a prevailing force or intensity and rapidity of sound, a large regulating movement of rise and cadence, and finally, a general tendency to revert to a point of rest, which is supplied in music by the key-note. Although no simply spontaneous vocal utterance falls into the regular order prescribed by the laws of musical time, yet faint adumbrations of equal rhythm are certainly furnished by vocal expression. It is obvious that every distinct vocal embodiment of emotion is marked by a roughly assignable length, and by a certain degree of rapidity, complexity of change, and so on. For example, the vocal utterances of certain shades of feelings are comparatively even and monotonous, and quickly subside, while those of other and more involved passions are characterized by great and rapid changes of pitch, emphasis, and rapidity, and by the length of their evolution and transformation. Hence one naturally comes to read in all forms of musical structure a translation—elaborated and idealized, it is true, —of that play of vocal activity, with the alternating impulses of daily life, which long preceded all art, and still presents itself as one of our most familiar experiences.

Now, however vague some of these resemblances between musical form and spontaneous vocal expression may be, the whole sum of such affinities is quite sufficient to produce a very marked mental effect. Since, as I have observed, there is little or nothing in the impressions of music to call forth the mental energies to objective realities beyond; since, too, as we have seen, sensations of tone contain powerful elements of mental excitement, we may reasonably expect that the stream of emotional influence will rush into any vaguely marked channels which the suggestions of tone present at the moment. And what one might thus infer *à priori*, one may observe in actual fact. The well-recognized effects of music on wide regions of consciousness may be seen to illustrate this deeplying relation between the art of tone and the natural undirected actions of the inarticulate voice.

The links of association now considered appear to invest music with three kinds of representative character. First of all, by the simplest process of association, musical tones seem to typify vocal action itself, viewed as a conscious play of muscular energy. Secondly, by a further process, they revive and render more or less distinctly recognizable to consciousness, varieties of emotional agitation, such as usually vent themselves in like vocal sounds. Finally, by a still longer operation of thought, these re-awakened feelings

are projected in fancy behind the musical tones, so that these seem to be the utterances of another soul stirred to emotional movement. Each of these orders of character deserves special description and illustration.*

The first class of expressive characters may be called the Dynamic attributes of music. This term is sometimes applied to accent, or the emphatic strength of tones, but it seems better fitted to denote all suggestions of force or energy. As Mr. Spencer has shown, the equivalents of vocal energy in music are emphasis, rapidity, distance of pitch from a certain average level, and width of interval. Strong tones, and rapid sequences of tones clearly imply, by suggestion, large amounts of vocal energy. With respect to pitch, it seems probable not only that very high and very deep notes, as remote from the plane of easiest vocal execution, represent large amounts of force, but that height has an additional dynamic value. It is observable that rising intervals in melody usually increase in emphasis, while falling intervals decrease. A descent to the key-note is more restful than an ascent to the same note, and accordingly, the former is commonly written *diminuendo*, while the latter is written *crescendo*. It seems possible that as the human voice produces its loudest and most distinct sounds at a high pitch, whereas its very low notes are comparatively feeble and unpenetrating as well as indistinct in pitch, the habit of throwing all loud cries, intended for a distant hearer, into a high pitch, may have given rise to special associations between height and intensity of tone. By means, then, of these links of resemblance, music calls up nascent feelings of muscular energy, and so assumes a dynamic aspect. The composer may skilfully combine these musical symbols of vocal energy so as to give to a particular composition a special dynamic character. Thus, one order of movement appears marked by a certain ease and the absence of painful exertion, whereas another order simulates the aspect of a mighty outflowing energy or of a tense strain of resisting force. The kind of composition which thus awakens a dim consciousness of energy is pretty clearly marked off in style from that which acts on the passive and emotional susceptibilities of the hearer.

Nor are these suggestions of force confined to purely vocal memo-

* The order here adopted refers to the modes in which such intuitions may be conceived as growing in the mind. It is perhaps scarcely needful to add that in our ordinary perceptions of music these inferences are alike instantaneous processes, of which we are but vaguely conscious.

ries. The exercise of the voice has been connected by abundant experiences with other and motor activities of body and limb. More particularly in those states of pleasurable spontaneous action which characterize a healthy and robust youth, shoutings and babblings of voice have gone hand in hand with runnings, leapings, and quiet rhythmic swayings. Out of these experiences springs the natural association of music and dance, which Plato said could not be dissolved, since the impulse simultaneously to utter vocal sound and to move the body is common to all young animals.* Hence, too, that common tendency to sway body and limb under the influence of the more simple musical rhythms, as dance melodies. These suggestions, moreover, clearly involve faint ideal revivals of the elating joy which customarily expresses itself in exuberant motion, of the pleasure which accompanies the conscious expenditure of force, as well as of the exhilarating sensations which arise during movement. In this manner music acquires much of its cheering powers; its deeply stimulative capabilities, which of themselves would tend to excite the motor activities, being aided by definite associations of muscular action. This side of the art is in direct contrast to the passive and more purely emotional side. A style of composition which stirs a large measure of this active consciousness may excite comparatively little of feeling proper, of the joy and sadness that alternate and mingle in our emotional life.

The orders of composition which appear most distinctly to embody these ideas of force and motion may be roughly defined as follows: First of all, movements which are marked by a large amount of unevenly distributed emphasis, and by frequent and abrupt changes of pitch readily assume the character of powerful exertion, though these same peculiarities are also representative of the vocal sounds which express certain emotional states of mind. Secondly, loud and emphatic passages of a firm and regular step, such as march-movements, appear to answer to an orderly and voluntarily controlled expenditure of vocal energy. Finally, quiet and flowing melodies which are characterized by a simple regularity of rhythm, having their time and accent divided according to an easy and obvious principle, shape themselves to the ear as images of those spontaneous vocal activities which spring out of a happy exuberance of conscious life. For it is in the form of a simple grateful rhythm, either that of two alternating movements, or at most, of a triple time, that the currents of spontaneous

* *Leges* ii., 653 D.E.

energy in voice and moving limb commonly pour themselves. Hence these effects are most easily recognized in the simpler forms of musical composition, such as dance-measures, where a clearly dividing accent recurs with every simple division of time or bar. In all these cases, however, the suggestions are necessarily indefinite, rarely rising into very distinct mental images, but rather investing the composition with certain dim shadowy forms.

In more complex musical structures the suggestions of conscious energy and of grateful movement, fail, in a yet higher degree, to attain the rank of distinct feelings. Yet even here one may observe their subtle influence on our musical perceptions and judgments. For what is the well-known interpretation of music as the play of Nature's forces but the projection of ideas of vocal and other conscious actions behind the tones, which are thus transformed into displays of an objective might? Musical tones are able, no doubt, in dim outline to imitate some few of nature's sounds, such as the voices of wind and water, crash and roar, and other aspects of volume or quantity in sound. Far more powerfully, however, they awaken memories of our own conscious energies. Hence a grand orchestral volume of tone, by stirring myriads of such vague feelings, and at the same time supplying dim ideal shapes for these impulses, readily seems transmuted into the splendid simultaneous rush of nature's energies, whether in chaotic separation or in harmonious order. And thus it becomes possible at times to speak imaginatively of a more definite dynamic character in a piece of music. For example, when Beethoven says of the grand torrent of sound in the first movement of his C Minor Symphony: "Fate is knocking at the gate" (*Das Schicksal klopft an die Pforte*), he seems to be referring not only to a likeness of emotional effect—a sense of awe—but also to a distinct parallelism between musical sound and conscious energy, conceived in grand proportions as the power of supreme nature or of objective necessity.

Yet music, while transmitting to the hearer's mind these vague ideas of motor energy, conveys still more copiously ideal shadows of the emotional life which is more or less associated with all muscular activities, when not voluntarily put forth, and which holds such an intimate relation to vocal action as the great instrument of expression. How finely music expounds the emotional experiences of life, appears to be a familiar truth. Yet it is not quite so easy to perceive what are the precise shades of feeling it expresses; and, as we have seen, there is still much discussion as to

the limits of this expression. A more adequate understanding of this point may, perhaps, be reached by carefully examining the mental process by means of which music is able to awaken faint pulsations of a past emotion.

When a plaintive melody, as, for example, that of Mendelssohn's *Suleika* in E Minor, or of Schumann's *Ich grolle nicht*, moves the listener's mind to an exquisite sadness, it effects this, according to the theory of vocal association, by its numerous resemblances—in softness and slowness of tone, in gradual transition, and in strange, half-painful intervals of melody—to those vocal sounds into which a feeling of pensive sadness has, through long experiences, spontaneously uttered itself. Hence, the emotional forms which the several styles of music are fitted to awaken must be those which have a distinctive and characteristic expression. Now it is easy to see that many varieties of human feeling fall into indistinguishable vocal utterances. Not only does a thwarted love adopt an emotional language very like that of a thwarted ambition, but the murmurings of a still content are often closely similar to those of an incipient grief, and, as I have remarked in a previous essay, the sharp cries of pain come at times very near those of an ecstatic pleasure. Hence it has been said by Helmholtz and others, that music produces not definite emotions but rather moods or emotional frames of mind (*Gemüthsstimmungen*). Let us just glance at a few of these.

First of all, music clearly can represent various degrees of emotional *strength* or intensity. A powerful passion, whether joyous or painful, is indirectly shadowed forth by the energetic elements of tone, namely, emphasis, rapidity, range of interval, and duration. Thus we have faintly simulated the several gradations of emotional excitement, from the gentle flow of feeling typified by the *adagio* up to the intense rush of passion typified by the *presto con fuoco*. So, too, musical form can roughly represent distinct emotions so far as they are characterized by peculiarities of intensity. Thus, for example, it may distinguish between quiet and turbulent feelings, and between simple, clear, and comparatively uniform feelings, and complex, changeful, and fitful passions. Simple orderly rhythms, such as one finds in abundance in the *allegro's* of Haydn and Mozart, appear to interpret for us the clear even phases of our emotional life, while more involved, abruptly changing, and irregular combinations of tones, such as frequently occur in one of the later works of Beethoven, or in an overture of Wagner, seem rather the outbursts

of deeply complex and half-confused emotions involving many contributing currents of feeling together with their exciting ideas.

The *qualitative* differences of emotion, again, as pleasurable or painful, may be dimly expressed through the indirect associations of melody and harmony. Pieces in which the melodious sequences are sweet and clear—eminently those compositions which are written in the major key and which move through simple intervals of time—appear bright and joyous; whereas those which perplex and momentarily pain by the number of strange minor sequences, especially if they move unsteadily, so to speak, through chromatic changes of key as well as through sliding cadences of tone, appear, in contrast, sad and plaintive. And similarly, the preponderance of simple harmonies, intimately connected with one another by natural affinity, stamps a composition with the character of serene happiness; while a chain of less perfect and discordant combinations, distantly related to one another, rather conveys an impression of a painful emotional conflict. Moreover, by subtle combinations of these musical qualities, it is possible to suggest remotely an indefinite number of intermediate shades of emotion, such as outbursts of wild joy with painful recollections not wholly extinguished, or dark turbid rivers of sorrow in which glimmerings of hope may still be seen. As an illustration of these mixed emotional effects I may point to the grander kind of movement in the minor key, such as Schubert's first Impromptu in the *Moments Musicaux*, and the closing *Presto agitato* of Beethoven's fourteenth (the "Moonlight") Sonata.*

So far as the elements of music can distinctly pourtray these varieties of emotion, its complicated structures are able to represent the varying phases of our inner life. The currents of emotion which help to fill up the river of our daily consciousness are highly various in colour and in force, and as they mingle their individual forms disappear in the whole volume of this consciousness. Even when a powerful feeling seems for the time dominant, other shades of feeling appear in the dim background of the mind. And in ordinary emotional conditions pulsation follows pulsation in swiftest flight and in the most variegated play of light and shade. Now music is capable of faintly shadowing forth these aspects of our emotional experience. It appears to imitate the simultaneous play of different feelings by means of its polyphonic combinations as well as of its

* A slight yet suggestive analysis of the emotional side of music is given by Mr. Haweis in his *Music and Morals*.

harmonic accompaniments. Two movements very distinct in rapidity and melodic character, interwoven in a passage of a fugue or in a polyphonic phase of an instrumental quartett, distantly imitate the alternative play of rival sentiments. An accompaniment of melody, again, which appears to subserve and to sustain it—say one of Mendelssohn's *Lieder ohne Worte* or one of the exquisite *adagio's* of Haydn or Mozart—supplies a faint adumbration of the undercurrents of mind which accompany a dominant feeling. Similarly, the successive phases of an emotion have their counterparts in the sequences of distinct musical movements. In the more complex musical structures, vocal and instrumental, there are numerous changes of rhythm and force, melodic phase, and harmonic character, which distantly correspond to the transitions of our emotional life. Most conspicuous among these is the transition from the clear, blithe sequences of the major to the troubled and plaintive strains of the minor. These changes may be abrupt and distinctly marked, as happens in the case of two detached movements, such as those of a sonata; or they may be gradual, the point of transition being disguised amid a series of strange harmonic combinations. Numerous illustrations of such exquisitely graduated changes may be found in the instrumental compositions of Schubert and Mendelssohn. In this way are pourtrayed the curious alternations of emotional phase which make up the history of a single passion, such as the changes of intense outburst and final subsidence, of gladsome confidence and intruding doubt. So, too, more complex arrangements of tone may describe transitions from one emotion to another, whether flowing naturally out of the first, as pity from love, or called forth by a new impression or sudden recollection, as in the case of Tannhäuser on the Venusberg, to whose mind worthy ambition returns, overpowering and extruding sensuous delight.

In this way, then, the larger musical structures, pre-eminently that of the Symphony, with its ample area for simultaneous and successive variation, may be said to pourtray, in mysterious hieroglyphic form, large regions of emotional consciousness. In its extended evolutions of melody and harmony, with their recurring phrases, in its clearly marked divisions, and in its total progress through widely separated regions of time, key, etc., it seems a grand transcript from our inner experience, including numerous cycles of emotional change and development, as well as abrupt catastrophic transformations of passion and mood. And it is this fact which, as I hinted in the last chapter, helps to justify the free combination of various musical quality

and phrase in the larger forms of composition. The vast transition involved in a change from the bright and gladsome *allegro* to the tenderly quiet *adagio*, or from this last to the full triumph of the concluding *presto*, fails to offend the hearer because he feels it to be, in a sense, a *natural* transition. And the basis of this naturalness appears to be the fact that in our daily life we experience transitions of emotion, the vocal accompaniments of which pass through equally wide intervals. Hence music possesses through its emotional associations a special privilege with respect to the co-ordination of strongly contrasted parts. Even when the symmetrical aspects of musical form are comparatively wanting in a composition, the emotional suggestions of its successive changes serve to invest the whole with an organic continuity. The several divisions of a sonata, passing through the varying phases of bright major and elegiac minor, in rapid and brilliant, or in quiet and restful movement, simulate, by reason of these associations, the form of natural evolutions of the inner emotional world.

It is said that music represents not only feelings but Ideas. No doubt the transition in vocal sound from pure emotional expression to articulate declaration is a very gradual one, and in our ordinary life-intercourse feeling vents itself by affecting intelligible speech. Hence it seems natural that musical composition, built up as it is out of large numbers of distinct tones, rapidly succeeding one another and accompanying one another in simultaneous combinations, should, in vaguely depicting emotion, seem also to describe the many trains of image and thought which accompany, sustain, and determine our emotional states. It is obvious that there is nothing in musical elements beyond the mere aspects of number and rapidity which directly imitates thought. Further, even the thread of resemblance which binds together musical tones and articulate speech is a very slender one; for the distinguishing properties of articulate sounds are strongly opposed to the musical qualities of tone. Yet though in itself feeble, this link of analogy, when united to the powerful influences of emotional suggestion, may be sufficient to generate distinct ideas of language in the hearer's mind. That is to say, a series of tones becomes transformed by the reacting influence of the feeling which it awakens, into a clear, articulate language, which seeks to define, to explain, and to justify the emotion. In the case of several simultaneous movements, again, each separate thread of rhythmic melody seems to describe a distinct train of ideas, having its own shade of feeling; and thus one appears to find in a complex

orchestral theme a faint analogue of whole passages of inner consciousness, with their diverging trains of thought and their various streams of emotion.

Once more, music seems to take from our inner subjective life, and to body forth in outer symbols, not only feelings and ideas, but also impulses of Will. Whereas the art is primarily lyric, uttering a pure, unconstrained impulse of feeling, it becomes later on dramatic, or rhetorical, declaring earnest resolution, firm purpose, eager questioning, and so on. There are obviously certain arrangements of tone which best represent these mental attitudes. Thus, for example, increase of accent and heightening of pitch, followed by abruptness of termination, are rhetorical and volitional rather than emotional.* Mr. Mill has well said, "Grief, taking the form of prayer or of a complaint, becomes oratorical; no longer low, even and subdued, it assumes a more emphatic rhythm, a more rapidly returning accent." Emotion if left to itself gradually subsides, and its vocal accompaniment falls to a restful conclusion. Hence strong and abrupt climaxes of tone rather suggest the presence of a volitional element, of a purpose of declaring feeling in order to impress other minds. Illustrations of such rhetorical effects may be found in the recitatives of oratorios and operas, from among which one may select the masterly productions of Wagner.

It remains to be seen how these subjective effects of music become transformed by intellectual processes into apparently objective realities. The simplest and crudest example of this tendency to objectify a subjective feeling awakened by melody, is to be found in the vulgar delusion, that the pain and joy, the yearning, longing and the assured content, are in the very tones themselves. This curious error may serve to illustrate how very intimate is the association between the two spheres of sound and inner consciousness. A higher form of this quasi-reasoning process is seen in the universal ascription of the tones as vocal utterances to some conscious subject.

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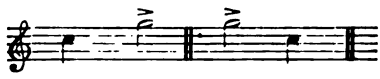
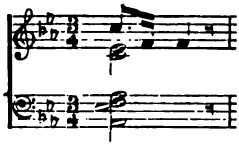
* It is easy, for instance, to note the correspondence of the two intervals

to question and answer. Accent, length and pitch of the notes, and the melodic relation they sustain, give to the first, abrupt energy and the incompleteness of expectation; to the second, a subsidence to content and rest. Helmholtz remarks that the conclusion of a question commonly rises through the interval of a fifth, while that of an affirmation falls through an equal interval.

Sometimes this idea assumes a definite form, and the hearer attributes the outflow of sound to the agitated spirit of the composer or of the performer. In listening to a symphony of Beethoven, for example, the connoisseur loves to trace out the characteristic qualities of the master's emotional temperament. This constitutes the subjective aspect of music, as of lyrical poetry. So, too, when one hears Joachim drawing forth, as with an occult spell, from his obedient instrument, a deep, overwhelming current of tone, one is disposed to interpret the powerful effect as the utterance of the musician's own spirit. When these emotional suggestions do not assume a distinct form as elements of a definite personality, they present themselves vaguely as the outcome of some *unknown* subject. In listening to the rippling melodies of a piano or to the keen throbbing tones of a violin, one involuntarily pictures to himself, in dim Shelleyan outline, some subtle spirit whose glad delight or exquisite woe is welling forth the mysterious sounds; or, if the utterance be more designed, "heard," and not "overheard," as Mr. Mill has so aptly said, one conceives himself as confronted and addressed by some unknown being. Co-ordinations of different rhythmic movements, again, become interpreted either as distinct processes of thought and feeling in one and the same mind, or as passages from the inner lives of different minds. How analogous is the play of two currents of thought and sentiment in one mind to the interchanges of thought between two minds, may be seen in Mr. Tennyson's subtle poem, *The Two Voices*. Yet it may perhaps be said that when one series of tones is rendered very prominent as the dominant melody, while the others are of the nature of harmonic accompaniments, the hearer is apt to interpret the composition as the outflow of a single emotional nature. Vocal solos, and the simpler melodic passages of instrumental music appear to have this significance, since the slight and subordinate accompaniment naturally suggests the side currents of a dominant feeling. On the other hand, if two or more parts are equally prominent, and the whole movement is more strictly polyphonic in character, the common interpretation is that of different natures in emotional intercourse. Thus, for example, in listening to Mendelssohn's duetto, in the *Lieder ohne Worte*, one is inclined to think of the two shades of sentiment depicted—half dissonant, but finally blending in perfect unison, and passing into the most delicious repose—as the reciprocal appeal and response of two distinct personalities converging towards complete sympathy. At the same time, this distinction is not a very rigid one, since even a polyphonic

plexus of tones, such as one finds in the music of Bach, for example, may be conceived as simultaneous revelations of one emotional mind, while the harmonic surroundings of a dominant melodic movement shape themselves as the responsive and sympathetic voices of a group of minds, acting as a Greek chorus to the dominant mind.

It is this impulse to project a living, throbbing soul behind musical tones which helps to lend so much of the Mysterious to the art. In listening to a progressive movement, especially if it be new, and of an unfamiliar form, we conceive ourselves as brought within hearing of some unknown nature, or natures, whose deepest experiences and aspirations are about to be unfolded to us. And just as there is a charm of mystery which chains our attention to a new mind approached in the course of life's intercourse, so, in yielding the ear to some new musical message, we are apt to experience something of a delightful sense of awe, as though about to peer into the unveiled depths of a human spirit. How this effect of awful expectation may be brought about by skilful combinations of strange, unfamiliar harmonies and melodic successions at the opening of a piece will be known to every one conversant with the best opera overtures. A well-known illustration of this effect may be found in the unwonted yet deeply suggestive cadences with which Beethoven opens his 18th Sonata:

Another fine example in instrumental music presents itself in the opening bars of Mozart's *Fantasie et Sonate* in C minor. Similar effects are to be met with in the opening bars of accompaniments of songs, for example, in those of Schubert's *Der Wanderer*, and of Schumann's less known but delicately beautiful *Mondnacht*.

As a final stage of this mental disposition to refer musical tones to an objective source, I may allude to the recognized habit of regarding music as the audible form of visible movement, and as the ear's symbols for reading the great processes of Material Nature. Musical tones, as we have seen, distantly imitate nature's sounds. Moreover, through the suggestions of our own active energies and their resulting movements, and the well-established parallelism between rhythmic sound and rhythmic motion, sequences of tone may indirectly call up faint images of nature's visible activities, as the

blithe flow of brook or the angry rush of cataract. But this is not the whole of the process. Music exerts its deepest and most enduring influence on the emotional regions of our nature, stirring vague impulses of oft-experienced sorrow and joy, terror and relief. And under the sway of these emotional states, ideas tend to transform themselves into appropriate images. Now the most constant intellectual accompaniment of a deep emotion is the thought of its exciting cause, or objective source. Hence, under the influence of an impressive piece of music, the mind is strongly predisposed to look for recognizable causes of its strange agitations; and by this means suggestions of external events, which otherwise would scarcely rise into consciousness as distinct ideas, become intense and luminous images. And thus a composer may to some extent conjoin with the easier task of stirring a certain variety of emotional mood the more difficult task of bodying forth to the consciousness of the listener those great and impressive events of nature—dire storm and hurricane, smiling calm, attack from furious beast or human foe, or deliverance from peril—which through long ages have been the causes of some of the deepest emotional experiences of human nature. And it is this truth which justifies what is good in such attempts as that of Beethoven in his grand, deeply-moving *Sinfonie Pastorale*, to sweep out in vague tonic outline imposing phases of nature.

Our examination of the sources of musical expression seems to bring us to the conclusion, that though there are vast numbers of analogies entwining about music and human life and nature, and binding them in mental union, no one order of these is of sufficient distinctness and strength to render music clearly imitative. The emotional suggestions of music, dependent on links of vocal association, are by far the most conspicuous, and yet these, as we have seen, are never sharply defined. The vagueness of such emotional effect is conclusively shown by the fact that whenever a number of people seek to define the feeling of a composition, they pretty certainly select different species of emotion. What appears to one hearer to image a lover's plaint may seem to another to exhibit the pensive feelings awakened by a still evening landscape. The reason of this is, as we have already seen, that the forms of rhythm, melody, etc., illustrate only very *general* aspects of our feelings, such as are common to many different species. The general aspects which are susceptible of fairly exact representation, are the *quantitative* differences of feeling, as intense or feeble, transient or enduring, even or changeful in force. In the case of qualita-

tive differences, however, music fails to embody distinctly even these general aspects of emotion; since, as we have seen, the many fine shades of sorrow and joy which mark off our emotions are only vaguely and indirectly suggested by musical forms.

Yet this very limitation of musical expression, when looked at from another side, may be seen to have been an addition to its power. What is lost in definite transmission of individual emotion is more than made up in vague transmission of vast groups and strata of feeling. A delicate and subtle melody taken from some musical classic does not, it is true, profess to be a very exact paraphrase of one distinct flow of feeling; yet, by its numerous half-hidden affinities with vast series of vocal expressions, it is able to stir deep and complex fountains of emotion, slowly distilled out of wide tracts of experience. It is this depth and quantity of emotion evoked by music, together with the mind's inability to define it as any familiar variety, which constitutes the infinity of the art, and accounts for its mighty subjective influence. The myriads of individual experiences that underlie the mysterious emotional effect of a quiet plaintive *adagio*, of a wild *prestissimo*, or of a frolicsome *scherzo*, consisting of all our own past feelings vented in similar forms of vocal tone and of all sympathetic feelings awakened by hearing like sounds in others, may well account for the profundity of the effect. And if we add to this the plausible hypothesis, that mingling with this residuum of individual experience are countless currents of emotion transmitted by long series of ancestors, the explanation of the effect appears to be complete.

Music, it is obvious, though owing much of its power to emotional suggestion, has not been influenced by the needs of expression alone. Like all other arts, it owes its development in a large measure to a desire for pure sensuous pleasure, as well as for the more intellectual delight which is supplied by beauty of form. The attainment of a deep and true expression of human passion has always been a further aim of music; and the actual progress of the art is the resultant of these different forces. Let us try to see how the aim of emotional expression has been affected by the action of these rival aims.

It is evident, then, that one condition of the first genesis of music was the surrender of certain ingredients of emotional expression. A pure melodious sequence, and even a pure single tone, are departures from precise vocal expression, and do not unerringly convey a distinct phase of emotional life. The first

effect of the addition of musical form to vocal utterance was to idealize the emotion expressed. For example, a feeling may be artistically exaggerated, that is, represented as more intense than it actually appears in common life. Similarly, it may be rendered more dominant, more enduring, and freer from all admixture of foreign elements than we find it in reality. Thus, a transformation of a lyric sentiment from the simply articulate to the musical form involves the addition of certain ideal aspects of purity, intensity, and fine proportion.

Further, it may be said that all the higher developments of vocal music have been in the direction of greater ideality of expression. The successive forms of recitative, song, and aria, as well as those of choral music, by their numerous improvements of melodic and harmonic form, have added to the ideal character of the expression. The simple, spontaneous utterance of feeling is exchanged for a more and more subtle, beautiful and exalted mode of expression. If we compare an elaborate artistic song of Schubert or of Mendelssohn with a popular song (*Volkslied*), we cannot but observe a further departure from primitive vocal utterance. Indeed, the whole progress of artistic development, involving a constant endeavour to reach beauty of form, has, at the same time, involved a large transformation of vocal expression from its primitive and spontaneous, to its artistic and regulated form. The addition of instrumental accompaniment, moreover, tends still further to idealize this expression, by assisting nature, so to speak, to disclose the many silent currents of feeling and idea which make up our internal life.

Secondly, the growth of vocal music has involved an approach to that generalized and abstract mode of expression which, as we have seen, is the characteristic of the musical art. The employment of tones and combinations of tones, which express equally well the general aspects of whole species of emotion, serves not only to idealize the quantitative aspects of a feeling, but also to suppress, if not to obliterate, its qualitative peculiarities. In other words, a poetic sentiment when thrown into a beautiful musical form becomes less concrete and individual and more typical. No doubt, a distinct apprehension of the words sung, serves to keep before the mind the individual characters of the emotion; yet the effect of the musical form is to exclude the recognition of this individuality. When, for example, Wagner makes Lohengrin pour forth his throbbing love, or the pilgrim Tannhäuser utter his boundless

remorse, the sounds appear to the hearer as an embodiment not so much of a particular instance of this emotion, as of all its possible varieties. In this way, through their union with melodic and harmonic form, individual feelings lose something of their distinctive peculiarities, and appear to be transformed into typical emotions.

At the same time, we may see the endeavours of artistic song to resist the tendency to a wide departure from natural vocal expression. As I observed in the last essay, the aria and finished song illustrate the desire to make music closely subordinate to the varying phases of the sentiment pourtrayed. Similarly, the opera has more than once exhibited a conflict between the two aims of tonic and poetic beauty. Thus, Gluck strove to free dramatic music from the limitations of regular and symmetrical structure, so as to make it a more faithful exponent of lyric sentiment and rhetorical purpose. Most recently Herr Wagner has laboured in a series of original and noble dramatic creations to subordinate music completely to poetic expression. By avoiding the sharp divisions of the aria, by freely employing the less melodic style of recitative movement, and by rendering the whole development of melody and harmony perfectly obedient to that of the emotions represented, he has achieved a style of opera which in its dramatic and poetic effect vastly transcends any previous forms of structure.*

Thus we perceive that the progress of vocal music illustrates the influence of beautiful form in rendering emotional expression more ideal, that is, finer and grander in its dimensions, as well as more vague and general in its character, than that of spontaneous nature. On the other hand, the exigencies of a definite emotional subject with its fixed order of change and transformation, have served to retard this progress. The retention of words, conveying definite shades of an emotion and distinct groups of ideas, must, it is

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* I am glad to be able to speak of these works *aus eigener Erfahrung*, as the Germans say, having recently had full opportunity of hearing them ably rendered in the German capital. Although I went to the first performance decidedly prejudiced against the noisy *Zukunftsmusik*, I found that after patient study of these operas I became so susceptible of their high dramatic beauties that I lost much of my relish for the older Italian opera, which began to appear highly unnatural. I heard from many cultivated Germans, among others from Professor Helmholtz, that they had undergone quite a similar change of opinion with respect to these operas.

obvious, always impede the full transformation of expression from the natural and concrete to the ideal and abstract.

Let us now glance at the change which this expression has undergone in instrumental music. In the independent varieties of instrumental composition all reference to definite individual sentiment is wanting. Tone, melody and harmony, with all their beautiful arrangements, have here a free field of development. And a concomitant of this development has been the transformation of emotional expression into the most exalted, complex, and abstract forms, of which the art of tone is capable. The extended range of tone supplied by artificial instruments, together with their variety of force and timbre, and the magnitude and complexity of structure of which this branch of music is susceptible, supply a vast field for the idealization of natural vocal expression, and for the revival, in faint pulsations, of myriads of slumbering emotional forces. In contrast to the first crude tentatives in song, aiming at nothing higher than a slightly intensified embodiment of a definite emotion with its attendant ideas, the complex music of the modern symphony appears to be a grand translation of the common vocal utterance of feeble men and women into a noble and sublime language, such as might be spoken by natures of a finer mould than ours, whose emotions and thoughts take grander proportions, and move in more orderly sequence. Under another aspect, these fine structures of tone seem to transcribe into abstract symbols the most general aspects and relations of all emotional life, and thus to image in vast dim outline the whole world of human feelings, not in detached fragments, but in the most perfect order of rise, complex development, and final subsidence in a deep satisfying rest.

That instrumental music is capable of expressing emotion is illustrated by the fact that composers have again and again striven to make it a vehicle of definite expression. I need only refer the student to the later compositions of Beethoven, to the poetical works of Berlioz, to the descriptive music of Schumann—so happy in its approximations to gladsome child-moods and weird strange fancies—and to the *Programmusik* of Liszt. While there is much in this direction of the art that is worthy, it is easy to see that a frequent aiming at distinct emotional effect, must lead to the loss of the highest beauty of form. As I have already hinted, many of the devices of this emotional colouring, such as an employment of strange chords, abundance of *staccato* passages, numerous chromatic changes of key, and so on, are distinctly opposed to the

laws of regular form. Hence while admitting that instrumental music may faintly adumbrate definite varieties of feeling, one must conclude that its highest function is to suggest the more general aspects of our emotional life.

It should now be possible for us to appreciate the question, so hotly discussed in these days, whether independent instrumental music, or the union of instrumental and vocal music in the opera, must be ranked first in æsthetic merit. Herr Wagner in a series of eloquent works, assisted by numerous fervent disciples, has proclaimed the doctrine that the age of free instrumental music is past, and that the Music of the Future will involve the complete subordination of tone to definite poetic and dramatic expression.

In order to approach this difficult æsthetic problem, it is necessary to recall the conclusions arrived at in the preceding essays. If we wish to estimate the whole æsthetic value of a department of art, we must take into consideration all the ingredients of pleasure it potentially contains. Hence we may inquire what is the relative power of vocal and of instrumental music with respect to sensuous, intellectual and emotional delight.

So far as sensuous quality is concerned, both departments appear to be pretty much on the same footing. If vocal tone is the richest and fullest mode of clang, the articulate ingredient in song is decidedly unmusical. On the other hand, if artificial instruments cannot rival the human voice in sweetness of tone, they supply in their extended scale of notes, as well as in their variety of timbre, a valuable addition to the sensuous enjoyment of music. But waiving this point, and turning to the second ground of artistic value, we find as a result of the preceding chapter, that the highest beauty of melodic and harmonic structure is attained in free instrumental music, where the art is unfettered by extraneous aims and may assume spontaneously the most impressive and lovely shapes. On the other hand, we observed that in vocal music, the impulse to realize this beauty of form is necessarily impeded. The needs of clear and accurate expression require, as we have seen, a certain order of change in the musical accompaniment, and thus the free development of melodic and harmonic movement is circumscribed.

Joining these conclusions respecting form with those of the present essay respecting expression, we appear to arrive at the following result. Vocal music, though offering a large scope for artistic construction, and for the ideal transformation of emotion, is unfitted to realize the highest attainments of these. A constant

necessity in this branch of the art is the embodiment of some particular sentiment with its many succeeding shades of colour and intensity. And this necessity serves to limit the attainment of the other æsthetic ends. Accordingly, vocal music is always a compromise between distinct and partially conflicting aims. However skilfully changes of melody and of harmony may be co-ordinated with changes of the passion to be depicted, it must sometimes happen either that the ideal beauty and grandeur of the form is sacrificed, or that some of the subtle developments of the passion want their musical expression. In enjoying a song of Schubert or an aria from *Don Giovanni*, one must not care to know all its verbal details. The music is said to perform its function if it transmits the most impressive phases and the ruling sentiment of the piece. On the other hand, in hearkening to one of Wagner's long quasi-recitative rhapsodies, it is the uttered emotion, colouring and swaying as it does in so masterly a way all changes of tone, that engages the attention and absorbs the whole mind, while the musical form conveys no distinct impression and leaves no trace behind it in the hearer's memory. Each effect is fine and worthy, only they can never be perfectly reconciled and made to contribute to one and the same final end. Were it otherwise, we might safely admit that the apostles of the *Zukunftsmusik* are right in saying that the age of free instrumental music is past.

In contrast to this, instrumental music seeks, with the sacrifice of definite emotional expression, the highest attainable beauty of melodic and harmonic form, as well as the most ideal embodiment of generalized emotional expression. The severance of instrumental from vocal music seems, indeed, to be but a continuation of the process of transformation already commenced in the first genesis of music. Vocal melody disguises many of the actual phases of a passion, and transforms those it seeks to embody into new and grander shapes. Instrumental accompaniment does this in a still higher degree. The growth of independent instrumental music simply completes the suppression of the individual and peculiar in our emotional life, and the artistic elevation in its stead of the vast forces of emotion which lie deep down in the human soul. Would it then be very forced reasoning if one were to conclude that instrumental music is the highest and most perfect development of the art?

It does not become me to offer a simple categorical answer to this delicate question. I am well aware of the differences of individual

feeling with respect to this subject. To some minds, for example, to that of Lessing, the emotional effects of instrumental music require distinct explanation. Such persons are dissatisfied until they are able to refer every pulsation of feeling to some definite objective source. To other minds, again, the deepest delight of music involves this very sense of vagueness and the non-recognition of a definite exciting cause. Such natures realize an intense satisfaction in losing themselves, so to speak, in the swift current of unrecognizable emotion which sweeps over them as their ear follows the mystic wanderings of an orchestral movement.

Thus in attempting to solve this æsthetic problem, ample allowance must be made for individual and subjective differences. At the same time, so far as one is free to determine the point by a purely objective method, one may reason as follows:—Music owes its vitality to the play of two sets of forces, the instinct for intense emotional expression, and the artistic sense of tonic beauty; and any form of music would seem to be justified which displays a large achievement in either of these directions. Hence, vocal music which attains the most distinct expression, and instrumental music which reaches the highest beauty of form, appear to be equally worthy. Yet it might be urged that these two aims are only to a certain extent separable, since the most passionate flood of tones requires to be controlled by laws of beautiful form, and since the most exquisite arrangements of tone and harmony are certain to whisper some tender, mysterious story of sorrow and joy. From this it might be reasoned that the highest attainment of music is the simultaneous realization of lofty beauty of form and of deep emotional expression, so far as they are susceptible of attainment in grateful unison. And certainly, if one must decide on an absolute best in music, this would appear to be it. But, if so, it seems a highly plausible conclusion that this highest attainable fusion of the two tendencies is to be found, not in the opera or any form of word-bound music, but in that free development of pure tone which has certainly reached a beauty and a splendour of power unattainable by song, and which nevertheless retains, in the folds of its own intimate structure, abundance of force for stimulating and satisfying the deepest emotional cravings of the human heart.

# THE ÆSTHETIC ASPECTS OF CHARACTER.

It may, perhaps, be assumed that whatever be the ultimate nature of the Beautiful, one of the distinguishing marks of beautiful objects is their fitness to minister a *univeral* mode of delight to thoughtful, contemplative minds. Things which please an individual mind because of some special and restricted relation, however beautiful they may be *subjectively*, lack the proper quality of *objective* beauty. Thus, for example, the association of some past pleasure with an object renders it beautiful only when the pleasurable experience and the recollection of it are common to an indefinite number of persons. A peasant's home is beautiful to him; a brooklet, flowing into the cool shades of a copse under a hot summer sun, is objectively beautiful.

Now it may be asked whether human character properly falls under the category of things objectively beautiful, as thus defined. It is evident that the aspects of a person's character which first of all attract our notice are those which involve close personal relations to ourselves. Our fellow-men, unlike the greater number of pleasing objects in inanimate nature, enter into special and restricted connections with us; and these relations might seem to disqualify them for affording us a proper æsthetic gratification. It is obvious, for example, that a mother's delight in the attractions of her child is no æsthetic feeling. That a person may minister this gratification, he must rise to a certain level of public notice, and present qualities of mind, which irrespectively of their direct or indirect bearings on the observer, delight him as a pure object of contemplation. That is to say, there must be, first of all, full opportunities of observing and studying character, and secondly, a general and impartial interest in human nature, by force of which all such exhibitions of character will attract quiet and thoughtful attention.

These conditions of an æsthetic interest in character, however completely realized to-day, belong to a very advanced state of society. In order that this interest may be widely diffused, the state of society must be favourable to a free intercourse of individuals, and

to a full observation of action and character. Our modern society provides these conditions, partly in its large area of public life, that is to say, in the number of individuals brought more or less under public observation; partly, in the choice of society offered to each individual, and finally, in the extension of a person's range of life and action, by which a far larger number of aspects of character become presented to observation. This last condition deserves, perhaps, special consideration, because of the doubt expressed by certain high authorities, respecting the tendency of social progress to promote a wider individual development of character. There can be no question that abundant scope for free, spontaneous action is an essential condition of the widest diversity of character, and, consequently, of the fullest æsthetic pleasure in the object. Thus, for example, excessive moral restraints may prove repressive to the free exhibition and enjoyment of character. In some cases, notably in the gradual emancipation of woman from a degrading seclusion, modern society has clearly enlarged the boundaries of individual spontaneity; and it is to be hoped that, in spite of the disposition of multitudes to tyrannize over minorities, there will be an increasing estimate of the value of individual liberty, not only because it is essential to the happiness of the subject himself, but also because it is the condition of an enlarged æsthetic enjoyment.

There seem to be two principal mental conditions of a general impartial interest in human character; namely, previous moral culture with its accompanying enlargement of sympathy; and secondly, a certain development of intellectual curiosity. The necessity of the former influence will at once be recognized. The strongest mental impulse to a transference of our attention, from our immediate selves to our fellow-men, is sympathy. When this feeling is but slightly developed, as in a tribe whose only code of morals is fidelity to its chief and hostility to all outside, there is clearly no scope for a disinterested contemplation of character. And it must be admitted that even to-day national prejudice greatly circumscribes our æsthetic vision. Many a curious and charming trait of character is probably hidden in races and societies which still remain under the ban of antipathy of the civilized world.

The other chief psychological force in the production of this interest in character is of an intellectual kind. First of all, it is obvious that the mind must be capable of distinguishing between the inner and the outer aspects of human nature. So long as a person is incapable of thinking steadily of mental, as distinguished

from bodily qualities, he will obviously be unable to appreciate any of the proper aspects of character. It is known that this capability of making mind a distinct object of thought is a late acquirement in human progress. This fact seems to be clearly shown in the growth of language, since all the terms denoting mental processes, such as "thinking," "desiring," etc., were originally borrowed from material phenomena. Accordingly, one finds that in all primitive æsthetic conceptions of human nature bodily attractions received the greatest attention, and of moral qualities those which habitually display themselves in striking objective shape, such as courage.* Even now but few of us discriminate sufficiently to estimate ingredients of character purely as mental qualities, neglecting the associated aspects which belong to their bodily expression. While we are all apt to see in a movement of face the beauty of an expressed feeling, we tend, by a reverse process, to discover in certain mental qualities the charm of their physical embodiment.

The intellectual conditions of this æsthetic contemplation of character involve, in the second place, a certain amount of curiosity with respect to the facts of human nature. Such a direction of the intellectual activity will, it is evident, be favoured by the force of human sympathy. The more one is disposed to enter into the feelings of others, the more closely will he attend to the manifestations of these feelings. Yet this curiosity implies something more than a moral force. Its chief ingredient is what one may call the psychological interest, that is to say, a special disposition to concentrate attention upon the subjective facts of human nature. We are all familiar with a type of mind which is strongly predisposed to note, classify and account for the actions and feelings of others; nor does this taste depend on a special psychological culture. Its characteristic element, in addition to a quickness of sympathy, may perhaps be defined as a certain liveliness of subjective imagination, by force of which the most unfamiliar phases of human feeling become comprehended. Whatever its precise nature, this impulse is obviously a late growth of the human mind, and even to-day exists in a high degree in but a comparatively small number of persons. How closely this psychological curiosity is related to the proper æsthetic interest in character, which we are here considering, will frequently be illustrated in the course of this essay.

* No doubt one reason why this quality was so early erected into an æsthetic quality is that it ranked high in the primitive codes of morality.

Such, then, appear to be the chief social circumstances which favour the direction of the æsthetic activities to the special object of human character, and the fundamental mental qualities which are presupposed in this interest. Keeping these in view, we shall be the better able to enter upon an analysis of this interest into its various elements, inasmuch as we shall avoid the error of supposing that the several varieties of emotional susceptibility discussed are universal ingredients of the human mind.

The study of the elements which make up this æsthetic interest in human nature will involve two distinct inquiries. First of all I shall seek, in the present essay, to determine and classify its component parts, and to reduce them to their simplest psychological principles, suggesting, here and there, their mutual relations, so far as they tend to support or to oppose one another. As a sequel to this psychological study, I shall examine, in a second paper, the precise modes in which the various æsthetic aspects of character enter into the ideal creations of Art, more especially those of the Drama and the Romance.

In looking at the qualities of human character which attract our æsthetic contemplation, we notice that, while some are features common to mind and to external nature, others are peculiar to the former. Thus, for example, when we speak of a harmonious character, or of a rare moral trait, we are using terms which are equally applicable to the sights and sounds of the outer world. Sometimes this application to mental qualities of terms borrowed from material phenomena may be explained by the fact of the intimate connection of mind and body. When, for instance, we call a will robust, or an emotion quiet, we are pointing, unconsciously perhaps, to the active and visible results of the one, and to the vocal expression of the other. On the other hand, many of these modes of describing character imply the fact that mental and material phenomena present like æsthetic aspects, and this truth will be abundantly illustrated in the course of our inquiry.

If we look at human nature as a whole, and in its contrast to the material world, we find it presenting a peculiar interest of its own, which I may best describe, perhaps, as the charm of conscious life.* While many of the aspects of the external world are a matter

* It is evident that the lower animals awaken some degree of this same interest; only, being further removed from us, and less capable of expressing to us their feelings, they present much less of the proper charm of mind than our fellow-men.

of indifference to the majority of mankind, and only attract the attention of the naturalist, we may say that all presentations of human life and character are fitted to be a subject of general interest. The faint germs, indeed, of this special interest in the displays of conscious mind may be found among the most uncivilized races, and even among the very young. Stories of human adventure and of emotional life will often interest those to whom descriptions of external nature prove tedious. The true development of this interest, however, is to be looked for in the educated adult. To a man trained to a fair amount of sympathy and of observation, every new instance of individual life, whether real or fictitious, will have a certain unique attraction. This universal attractiveness of human nature as a subject of observation has been expressed in many well-known aphorisms, from which it may be sufficient to select the words Goethe puts into the mouth of his hero Wilhelm Meister: "Man is the most interesting thing to man, and ought, perhaps, alone to interest him." *

The causes of this interest are almost too obvious to require naming, though they may not have been fully analyzed. It is not necessary, in order to explain our knowledge of each other, to assume any intuitive belief in the existence of minds besides our own. The objective sign, pre-eminently vocal sound, is the common meeting-point of our own and others' consciousness. A little attention to the process here involved will perhaps serve to bring into clearer light the peculiar attraction of human nature as an object of contemplation.

The first and most conspicuous feature of the process is, that our impressions of others' feelings are always interpreted in terms of our own. The movement or sound that conveys to us some element of another's consciousness does so by calling up the idea of a feeling we ourselves have experienced. And in this fact lies, of course, the main interest. Whatever comes into this close mysterious connection with our own sentient life has all the borrowed interest of this life itself. But this is not the whole of the effect produced. The mind derives a positive pleasure from every new discovery of resemblance; and this pleasure is heightened in cases where the resemblance presents itself partially disguised in the midst of diversity. All of us, perhaps, have experienced a strange shock as we discovered a rough image of a human face in a beetling crag.

* *Wilhelm Meister's Lehrjahre*, Buch i., Cap. 4.

Now, the knowledge of another's mind is emphatically a consciousness of something familiar amid much that is strange. The gulf which separates another's inner life from our own is a vast and impassable one. However eagerly we may try to penetrate into the full conscious life of another mind, we find at the end that we have only dimly espied a remote and obscure world. Now it is this recognition of something like our own conscious self, yet so widely sundered from it, which gives something of their exquisite delight to the interchanges of feeling even of mature men and women.* This interest, moreover, is not dependent on the nature of the feelings participated in. It is at the basis of sympathy with another's joys and griefs, but it includes as well the tendency of the individual mind to enter into the feelings of another which are neither pleasurable nor painful, and even into his calm and passionless thoughts. It is a striking instance of the great law of harmony that rules through the whole of our emotional life. To discover that another mind has shared in some subtle feeling which one had imagined to be peculiarly his own, or that it has been visited by the same strange thought or passing fancy which had impressed his own mind, gives to a sympathetic mind one of its choicest delights.

This fundamental fact will, one thinks, if properly understood, throw a valuable light on the whole of our æsthetic interest in human nature. It may be viewed, moreover, under two aspects. First of all, it involves a purely sympathetic process, that is, the self-projection, so to speak, of a mind into another mind, so as to realize in vivid imagination its hidden feelings. By means of this sympathetic activity there is added a new zone, so to speak, of ideal life to the narrow circle of our immediate individual experience. But this act of losing one's self in another's consciousness is never the whole of the mental process in the contemplation of character. For the exhibited feeling is, strictly speaking, always, in some measure, an unknown quantity. Although we commonly imagine that we interpret the thoughts and desires of others as easily as our own, this supposition is far from accurate. We customarily interpret just so much of another's feelings as is of immediate practical interest for the guidance of our conduct. Yet, over and above this known quantity, there remain fine shades of emotion and thought

* Goethe says somewhere: "*Man weiss erst dass man ist, wenn man sich in Andern wiederfindet.*"

which we cannot determine. And further, when the type of character we are observing is one far removed from our own, through difference of natural temperament or of culture, we are frequently called on to read a class of sentiments or ideas, of which we have no individual experience. Now it might at first sight appear, that these barriers to sympathetic interest in one's fellow-creatures would be a cause of pain to the observer. But although these limits do, no doubt, occasion pain to a highly sympathetic mind, they become, in another way, the source of a renewed pleasure. This element of gratification is due to the stimulation now given to curiosity and imagination. First of all, there is a pleasant feeling of exhilaration which accompanies the activities of the intellect in seeking to understand the mind of another, though this gratification, as we shall presently see, may be counteracted when the character becomes too intricate and obscure. Secondly, there is a distinct ingredient of pleasure attending the play of the imagination, when it fills up, in fanciful conception, from the mind's stores of recollection, the unknown regions of another's mind.

These intellectual pleasures, though distinct from the gratification which attends a participation in another's feeling, co-operate with it, and indeed really spring out of it. We have now to note how the sympathetic impulse exhausts itself, so to speak, giving way to quite other modes of mental activity. It is obvious that, when we contemplate a character, we are not merely projecting ourselves in fancy into another's consciousness. While we are conscious of a certain sudden approximation of another's mind to our own, the very recognition of this fact implies, at the same time, a discrimination of the two personalities, and a perception of the objectivity of the other mind in relation to our own. In the most intimate communion of minds, we are always distinctly aware of this duality of mental existence. The consequence of this is that in our æsthetic observation of human character there is an alternating attitude of mind, according as we tend to realize *subjectively* the feeling which presents itself, or to regard and contemplate it *objectively*. It is evident that we only distinctly appreciate another's character, in so far as we fall into the latter mental attitude. To judge a character as noble or dignified, simple or graceful, involves, it is clear, a recognition of its distinct existence, as well as of some of its relations to other and similar existences. At the same time, the proper sympathetic interest of the mind in all displays of human feeling enters very fully into its æsthetic apprecia-

tions of character. Accordingly, we may seek to discuss separately those attractions of character which appeal chiefly to the sympathetic activities, and those which gratify mainly through the activities of objective contemplation.

There are some attributes of human nature which appear to correspond pretty equally to both of the activities just mentioned. As an example of these, I would select Clearness or Transparency of character. I have remarked that the limits to our knowledge of others' minds, while they may sometimes cause a feeling of restraint, are more frequently the occasion of a new imaginative pleasure. But this does not imply that obscurity of character, in all its degrees, is æsthetically valuable. For, first of all, a certain measure of clearness in the expression of thought and feeling is a condition, both of sympathetic participation in these, and of a more intellectual appreciation of them. Hence the peculiar charm that belongs to all simple and frank natures. Perhaps this transparency of nature supplies a higher gratification to our sympathetic, than to our perceptive activities. A character too naked to view does not offer a sufficient stimulus to the intellectual powers. On the other hand, great candour of mind, and great freedom in the expression of feeling, supply a valuable condition for the quick, vibrating movements of sympathetic imagination.

Another aspect of character which appears to correspond both to the sympathetic and to the intellectual impulses, is Quantity of nature. The fuller and richer a mind is in all the elements of idea, feeling, and purpose, the greater area it offers, both for the intellectual discovery of interesting phases and relations, and for the activities of a lively sympathy. Not only so, but when a nature presents an unwonted measure of this fulness, it may become an interesting object solely on this ground. The special source of the charm in this instance appears to be a large addition to the observer's individual feeling, through the ample gratification of the sympathetic instinct. Such minds appear to present an exhilarating stimulus to quiet sympathetic observation, and to extend the narrow bounds of the observer's personal conscious life, by revealing to him a large variety of conceivable emotional experiences, which the events of his own individual history would not have afforded him. As a striking example of this effect of quantity or intensity of human nature, I may select the quick, emotional temperament, when accompanied by an active imagination and ample flow of ideas. Apart from the charm of the external movements which accom-

pany great liveliness of mind, the very fulness of the revealed consciousness is an engaging object of contemplation. This interest, moreover, does not depend on the quality of the emotion exhibited, as pleasurable or painful, but it belongs alike to all varieties of exuberant feeling. When the play of feeling is least fettered by conventional restraints, it affords the surest form of this delight. It attaches itself, too, to all forms of active excitement, and is one chief ingredient in the pleasure which we derive from the spectacle of lively and vigorous youth. Such active natures interest us, further, through the scope they offer for imagination and sympathetic anticipation. In watching the varied activities of a lively, mobile lad, we derive a pleasure from tracing out in anticipation the many successive phases of his impulses and movements. In opposition to feeling and active impulse, intellectual activity has, for the most part, but little external impressiveness, and consequently is a less engaging object of contemplation. Lively fancy, that is, a certain rapidity of thought sustained by quick pulsations of feeling, is no doubt highly impressive. Indeed, whenever thought is directed to external objects, and manifests a certain vigour and velocity of movement, especially if it take the form of a quickness of sympathetic insight, it may become an attractive object. Even the spectacle of silent thought, as one sees it, for example, in the statue of the Reading Girl, may by its element of mystery stimulate an imaginative activity. At the same time it must be admitted, that the predominance of thought over feeling and action in a character serves to render it too self-contained and occult an object, and to disqualify it for affording a high degree of sympathetic interest.

We may now consider some of the *special* attractions of character which arise out of this process of sympathetic participation. One of the most striking of these, perhaps, is to be found in the æsthetic charm of all Joyous aspects of human nature. It follows from our conception of this ideal participation, that when a person witnesses the manifestation of a pleasurable feeling in another, he re-experiences, in an ideal form, some element of his own happiness; that is to say, his perception of another's joy is in itself a consciousness of joy. No doubt the first effect may be counteracted by subsequent reflection, as when one is displeased at the sight of an undeserving person's happiness; yet this fact does not disprove the tendency of the sympathetic impulse to rejoice in view of another's joy. For this reason the expression of painful

feeling is discouraged in refined society. It is looked upon as a point of good breeding, not only to hide all signs of annoyance, mortification, and constraint, but also to assume a uniform cheerfulness of manner. Even the charm of a benevolent action loses something, if it is unaccompanied by the signs of glad spontaneity. Further, a person is commonly esteemed an interesting object if he is largely susceptible of pleasurable impression. It is probable that the special æsthetic charm of some types of character reposes in part on a natural joyousness of temperament. While we derive pleasure from witnessing the acquired habit of suppressing the signs of pain and of expressing pleasurable feeling, we experience a much greater enjoyment in view of a natural and perfectly spontaneous disposition to gladness. The absence of everything like artificial restraint renders the spectacle a more perfect form of pleasure. Who has not felt the special charm which invests a happy, buoyant nature, ready to forget a pain and to dwell in the sunshine of content and hope? And who has not discovered a wonderful beauty in this joyous disposition conserved amid the ruins of a wrinkled old age, which it lights up with a serene smile? Hence we find that art has selected, as the permanent mental aspect of her gods and heroes, a deep, quiet gladness; and of these representations, the Greek Apollo "whose bright eye lends brightness, and never yet saw a shadow," will probably always remain first in the order of beauty.*

Such, then, are some of the principal attractions of character, which depend on the mind's ability to enter into a feeling of another through the medium of its outward expression. We may now pass to the consideration of that much larger order of æsthetic aspects of human nature which are mainly due, not to this play of sympathy, but to a certain measure of Intellectual activity. The amount of this perceptive activity may vary considerably in the several classes of æsthetic appreciation. Sometimes, the pleasure afforded by a character requires very fine discrimination, and subtle processes of thought, as in many of the more refined impressions of art. At other times, the gratification follows instantaneously the observation of an obvious feature of character; and on this effect

* Mr. Carlyle has brought out this aspect of character in his *Life of Sterling*. So thoroughly "joyful, light and hoping a nature" was his, that even his religious feelings seemed to lack the element of terror. Next to this elasticity of spirit, the great charm of Sterling's character appears to have been his abundance of nature, his "infinite susceptivity."

depends the principal attraction of character for the less cultivated order of mind.

Beginning with the latter and simpler order of æsthetic perception, I may select, as a first example, those gratifications which arise from a recognition of the Amiable sides of human nature. The feeling of tenderness or love, in its widest sense, which is one of the most elementary of human sentiments, attaches itself in a special manner to our fellow-creatures, and is not directly evoked by unconscious material objects. We bestow the strongest degrees of this sentiment on a few persons only, who hold peculiarly intimate relations with us. Yet when the emotion is highly developed, it may be called forth in a quiet ideal activity by the mere spectacle of certain aspects of human nature. All the features of character which habitually excite this agreeable emotion come by association to wear the aspect of loveliness, and thus attain a new value for our æsthetic sensibilities.* Accordingly one finds that the amiable qualities of character have played a very conspicuous part in all the lighter and more popular varieties of fiction. This emotion may be called into activity, not only by external beauty, but also by proper mental qualities. Thus, for example, all manifestations of the joyous temperament are apt to excite ideal pulsations of tender regard. Every such radiation of gladness from a human mind appears to act, like a direct personal kindness, in prompting the beholder to a reciprocation of the delight received. Similarly, too, those moral excellences which distinctly imply a disposition to increase the pleasure of others, such as a spirit of self-sacrifice and a readiness to sympathise with others, call forth a mode of this emotional response in an observer. The feeling, further, may be awakened by the spectacle of pain in a fellow-creature, when, as a pleasurable emotion, it serves to soften the sympathetic pang which the witnessed suffering evokes. In this form of Pity, the sentiment of tender regard fills an important place in poetry and fiction. When the suffering exists only in possibility, and is faintly suggested by association, the sentiment of compassion combines with other pleasurable impressions in producing a very subtle mode of delight. Thus, the spectacle of untried innocence in youthful natures affords, along with the enjoy-

* Mr. Mill, in his famous essay on Bentham, distinguishes the lovable as a third aspect of actions co-ordinate with the æsthetic and the moral. But according to our present conception of æsthetic quality this separation is scarcely justifiable.

ment due to a recognition of a fresh, unblemished nature, an additional delight through the dim perception of the pathetic aspect of the object, through a faint realization of future exposures to an environment too harsh for its frail powers. A very true and delicate expression of this feeling may be found in Heine's exquisite song, beginning:—

"Du bist wie eine Blume."

It may well seem an anomaly to refer, under the æsthetic aspects of character, to those qualities which awaken the very opposite sentiment of tenderness, namely, Animosity. This attribute of human nature appears to carry in its very name the mark of its banishment from the pleasing region of æsthetics; and it is no doubt true, that in actual life the exhibition of hateful qualities of mind is, in the majority of cases, more painful than interesting. Nevertheless, as we find that these attributes of human nature have been freely employed in the artistic construction of character, we need to inquire into the exact nature of the mental effect which they are fitted to produce. First of all, then, it is evident that any feature of character which excites a sentiment of antipathy must in some way offend our sensibility. The most common form of this offence is the injury of our moral and æsthetic feelings, such as our sense of right, and our feeling for fitness and naturalness. This first element of the impression is obviously anti-æsthetic, since it involves a distinct feeling of pain. Nevertheless, provided this painful aspect of a hateful quality does not wholly absorb the attention of the observer, its effect on the whole impression may be more than compensated for by other and more interesting aspects. It may be said that in looking on such a moral quality the mind of the observer supplies a solvent for the first painful impression. This neutralizing influence resides in the pleasurable emotional stimulation which accompanies the impulses of animosity and antipathy. When we have been annoyed by the disclosure of some repulsive side of human nature, we feel a strange, fascinating interest in the subject of these attributes. A nascent impulse of retaliation compensates us for the momentary pain; and our attention is fixed on the hateful object as a source of special interest. It is this impressive and detaining force in what is hateful that gives the more repulsive sides of character their æsthetic value in art. Even if the susceptibility to malevolent gratification is destined to die out with the progress of the race, one has to recognize its marked influence on all past productions of art.

The two orders of gratification which we have just considered have little of the proper æsthetic quality; for they do not arise in the mind of an observer through purely disinterested contemplation, but rather through a vague consciousness of some *personal* relation to the object. In the perceptions we are now about to examine, these personal and egoistic suggestions are less conspicuous, and the gratification is due to a calm objective estimation of the character in itself, and apart from any peculiar relation to the percipient subject.

Of these more purely contemplative gratifications, the most simple is that of Novelty or Rarity of character. I have hitherto assumed that the mental quality which gratifies the spectator, has a certain degree of freshness and unfamiliarity. The attributes of character which betray themselves most frequently in our every-day experience tend to become commonplace and unimpressive. It is only in so far as they present some new aspect or shade of intensity that they produce any deep æsthetic effect. Further, this element of rarity is not only a condition of all æsthetic pleasure, but may become the exclusive source of such a gratification. That is to say, a feature of character may acquire an æsthetic value by the mere force of its rarity. In these cases the pleasure of the spectacle may be referred to the emotional stimulation, that is, to the elating effect on the mind of all intense impressions. With the progress of knowledge, the region of the impressive and startling becomes more and more circumscribed, and consequently this enjoyment does not belong to the highest class of æsthetic gratifications. There appear to be three chief conditions necessary to the realization of the more refined variety of the pleasures of wonder. First of all, the rarity of the wonderful quality should not be too apparent, but should betray itself as something hidden from superficial reflection. A very obvious instance of a rare quality, as that of extraordinary muscular energy or of a prodigious memory, has too momentary an effect on a thoughtful mind, to supply any considerable enjoyment. Secondly, a cultivated observer will scarcely derive any appreciable amount of pleasure from the mere rarity of a character or quality, except this possess some intrinsic value for his other sensibilities; as, for example, the sentiment of moral admiration or the feeling of the ludicrous. Finally, in order that a rare exhibition of character may afford pleasure to a thoughtful mind, it must not appear to conflict with any general laws of human nature. The progress of culture not only narrows the field of wonder, but also

alters the quality of the sentiment. As the human mind grows familiar with the universal presence of order and certainty, the crude, blank amazement of ignorance becomes transmuted into a less disturbing recognition of novelty, contrast, and endless variety. And it is under these aspects that human character ministers the pleasure of novelty in the higher æsthetic perceptions.

The feeling which enters into the appreciation of individuality of character will be more fully illustrated presently. For the present we will confine our attention to the modes in which a sentiment of wonder enters into, and blends with, other gratifications derivable from the manifestations of human character.

First of all, then, if the singular quality of character be otherwise indifferent, having no value for our ethical feeling, or our sentiment of beauty, it can have but little interest for the cultivated mind. It may indeed readily assume the aspect of the grotesque, and gratify the sentiment of the ludicrous; yet it will do this, in the case of a thoughtful mind, by virtue, not of its rarity, but of its attendant circumstances and their suggestions. When, however, the rare mental quality, or rare degree of a mental quality, is in itself good and valuable, either morally or æsthetically, the natural disposition to wonder contributes an appreciable element of pleasure to the resulting impression. The sentiment in these cases is partly disguised in the delight which is called up by the sight of the valuable quality; while the clearly perceived worth of the wonderful feature appears to justify the emotion, raising it above an unthinking astonishment.

This compound sentiment falls into one of two varieties, according as the striking feature impresses us by its qualitative, or by its quantitative, value. In the former case, we experience a sentiment of Admiration, in its narrower sense; in the latter instance, we experience the feeling of Awe before the sublime. The former of these may be illustrated in the effects of all the rarer examples of the virtuous, lovable, and graceful aspects of character. All uncommon degrees of these qualities, and all rare combinations of them in individuals, have something of the dignity of the admirable.

When the striking aspect of the worthy attribute is rather its quantity than its quality, the emotion of wonder passes into the peculiar feeling of the Sublime. The exact nature of this sentiment does not appear, as yet, to have been adequately explained. In many cases, no doubt, as Professor Bain says, the effect of sublimity may be referred to a sympathetic feeling, in the observer's mind, of

the *power* displayed in the sublime object or quality. At the same time, some aspects of character are called sublime, which appear to have no direct reference to power, physical or moral. Thus for example, an abundance of benevolent feeling, embracing a vast number of objects, or the coexistence of a large number of virtues in the same individual, would seem to give a certain sublimity to a character. It appears possible to refer a part of this effect, which is common to all displays of the vast and indefinite, to a transformed relic of primitive wonder. This feeling is the emotional agitation of a mind in presence of the unknown, and is liable to be suppressed by the activities of a growing intellect. Now, in proportion as the object, whether material or spiritual, is of vast dimensions, the energies of the understanding are inadequate to compass all its aspects in one simple and simultaneous perception. Hence that vague sense of intellectual defeat and of momentary prostration, to which most writers, including Kant and Hamilton, have referred all varieties of this sentiment. If this be so, one may say that the sublime in human character ("intensive sublimity," according to Hamilton) owes its impressiveness, now to a feeling of elation, now to a transformed feeling of awe in presence of the unknown.

We may now be able to discuss the question, how far rarity invests an intrinsically repulsive trait of character with an æsthetic value. First of all, then, it seems generally admitted that when such a quality presents vast dimensions, it may afford the proper enjoyment of sublimity. Examples of a really hateful moral quality becoming thus impressive are afforded by some of the most appalling forms of crime, which reveal a deep-penetrating and wide-spreading corruption of moral nature. The inscrutable darkness of an utterly bad nature, the vast region of unfamiliar ideas and passions which it seems to disclose, together with its indefinite capabilities of destructive action, combine to render extraordinary criminality an object of a deep and vague emotion, which seems in part an incipient terror, in part a natural wonder before the vast and unfamiliar. It is not always the power displayed by such a nature, that so profoundly stirs our mind. The same force of intellect and will, employed in more natural and familiar fields of action, would not inspire the same quality of emotion. This sentiment appears to be connected with the remoteness of the contemplated nature from ordinary humanity, and with the mystery which thus enshrouds its profound recesses. At the same time one cannot but see, that all these aspects of human nature have but a

secondary æsthetic value. The mingled sentiment of wonder and terror which they most powerfully awake is very apt to be oppressive; while, in any case, the violence done to our moral sensibility and to our feeling for the natural must greatly detract from the æsthetic pleasure. The principal reason, therefore, for the occasional introduction of such human monstrosities in art, seems to be that they are fitted to excite that abiding interest in personality on which so much of the effect of story depends.

The influence of novelty may be traced in the effects of the Ludicrous and the Comical in character, just as easily as in those of the sublime. That a certain degree of unfamiliarity characterizes every laughable trait, will at once be recognized. Nor does the element of surprise appear to constitute in these effects, as it does in our impressions of the lovable and the harmonious, simply a universal condition of our mental impressions. It seems rather to enter into the very essence of the characteristic effect. It is certain that young children and the uncultivated laugh at most things which are unfamiliar and exceptional, provided they present no terrible or other painful aspect. In their case, then, the gratifications of wonder and laughter are very closely connected. One finds too that a sudden transition from one impression to its opposite is apt to be ludicrous, provided no painful feeling is at the same time occasioned. These facts seem to show, that the exhilarating shock of surprise is one source of this gratification. Accordingly we find that the more popular comedy is able to raise a laugh by representing any oddity of costume or nationality, as well as any inconsistent freak of individual character. At the same time, one must admit that very many varieties of the ludicrous owe their peculiar effect, not so much to their unfamiliar and stimulating character, as to accompanying suggestions of littleness, unworthiness, and loss of dignity. The explanation of this process is to be found, according to many writers, ancient and modern, in the indirect production in the observer's mind of a grateful feeling of exaltation. It appears to be fairly certain, not only that laughter is a concomitant of brutality and cruelty among uncivilized races and children, but that even in the case of the more refined and benevolent it is apt to accompany the recognition of any slight loss of dignity in another, when this loss does not evoke other and painful feelings.*

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* Mr. Bain recognizes both of these influences in laughter. Only he seems to regard the latter as a joyous sense of relief after constraint, and not as the

First of all it may be noticed, in reference to the influence of the Odd and Exceptional, that increased intelligence leads one to judge individual facts in their relation to classes of facts. In this manner, a thoughtful observer learns to regard every feature of a human mind in relation either to some general type of character, or to the whole combination of qualities which makes up that particular nature. As a result of this, what is simply odd and exceptional to the inconsiderate, appears to the cultivated observer to fall into its right place, as a natural element of character. It is the less obvious points of idiosyncrasy, the hidden nooks and crannies of individuality, which afford to the cultivated something of that sudden amusement which every unwonted spectacle is apt to beget in the more childish class of intelligence. In other cases, the surprising effect is due not to the unfamiliarity of the feature, but to its contrast with the rest of the individual character. Although apparent contradictions in character must necessarily pain a thoughtful observer, and moral inequalities must offend his sense of worth, any harmless contrast of mental feature, such as an incongruity of sentiment, may, not only as a slightly demeaning foible, but also as a source of surprise, awaken a feeling of hilarity.

Turning now to the effects of the Low and Unworthy, one may say that all such qualities of character, provided they do not strike one as injurious, have a certain ludicrous colouring, which easily fits them for the broader and more popular comedy. A high cultivation of taste disqualifies the mind for many of these cruder gratifications, both by rendering moral sensibility more acute, and by creating an intellectual desire for the unobtrusive and subtle. When, however, a vulgar trait is not thrust forward too violently, but rather suggested, and especially when it receives an appearance of naturalness from its conformity to the ruling characteristics of a class, it may afford a considerable gratification. Yet it must be conceded that culture tends greatly to narrow the capacity for enjoying such portraitures of the lower and more animal side of human nature as that of Falstaff, however well executed it may be.

It remains, therefore, to inquire how the ludicrous effect of the low and unworthy in the more cultivated order of æsthetic judgments becomes transformed into an apparently new sentiment. As we have already seen, a bare blemish of character is, to a morally

direct effect of a pleasurable stimulation. Mr. Spencer's theory appears to ignore the former, and to refer all laughter to a sudden diversion of nervous energy into a new channel.

sensitive mind, too painful an object to excite the pleasurable impulse of laughter. How, then, it may be asked, is it possible to afford such a mind the proper enjoyment of the ludicrous? In order to answer this question we must consider the several devices by which the mean aspect of an action or a quality may be toned down, so to speak, and partially disguised. It is no inconsistency to assert that the essence of the ludicrous is the triumphant feeling of the spectator over the degradation of its object, and yet to admit that the most exquisite forms of the pleasure are to be found when this degradation is most trivial and least palpable to direct observation. For though a great meanness may awaken moral contempt, it does not follow that a slight meanness will do so. And a degree of meanness which is too microscopic to affect the august moral sentiment may appreciably affect the risible susceptibilities. Further, when the disgraceful trait is greatly disguised, it supplies a pleasurable stimulus to the imagination and intellect, the activity of which is a condition of all higher æsthetic pleasure.

First of all, then, the laughable quality may be freed from its too degrading suggestions by the close proximity of some counterbalancing excellence. Thus, for example, the harmless foibles of a truly admirable character are felt to be a legitimate object of laughter. The presence of a worthy trait not only satisfies the moral needs of the observer, but affords just that sharp contrast which, as I have remarked, appears to be essential to genial outbursts of merriment. It is worthy of remark, further, that these juxtapositions of the exalted and the commonplace may be made to satisfy, not only our moral feelings, but also our sense of naturalness. A wide and just knowledge of human nature familiarizes us with the coexistence of minor defects with every variety of moral excellence. As will be seen more fully presently, observation so accustoms us to the sight of these contrasts, that we learn to expect some sign of incompleteness in every new instance of dignified character.

Again, the blunt edge of the degrading in the ludicrous disappears, whenever the mean quality coexists with other qualities which appeal to kindly sentiment of the beholder. As examples of this process, I may refer to the amusement afforded by many forms of trivial and gay-hearted character, and to the peculiar emotional impression which is produced by a fusion of the ludicrous and the pathetic aspects of character. In the former instance, one is frequently aware of a faint moral contempt and of a proper impulse of laughter at the unworthiness of the object; but, for the most

part, the former feeling is checked, and the latter rendered more mellow, by a sympathetic gladness with the gaiety one witnesses. The sight of this light-heartedness awakens an impulse of tenderness in the observer's mind, which blends with and transforms the colder variety of hilarity, and this mingled sentiment invests the contemplated person with a very exquisite charm. It is this emotion which is called forth by all the lighter and gayer figures of comedy, whose airy joviality seems to free them from the moral restraints of earth, and whom, for the sake of their perennial flow of hilarity, one is only too ready to excuse from the possession of more serious qualities.

This blending of the feeling of the ludicrous with a pathetic sentiment gives rise to one of the best recognized varieties of Humour. In this emotional effect, the characteristic element is the rapid alternation and harmonious balance of an impulse of pure laughter, with a gentle feeling of pity for the object. Although the coarser forms of ridicule, as undisguised exultations of power, are clearly incompatible with compassion in any shape, its more refined varieties, which are called forth by insignificant blemishes and harmless oddities, easily coalesce with a tender feeling. There are many instances in which the contemplated weakness seems equally suggestive of pity and of laughter. In these cases the laughter of power is at once checked, and partly suppressed, by the feeling of pity which is simultaneously called up by a closely connected view of the object. Such comico-pathetic objects lie midway, between the region of pure comedy and that of pathetic tragedy.

The noteworthy circumstance here is, that two feelings, so unlike as laughter and pity, are capable of a harmonious and agreeable proximity in consciousness, and that they do not rather produce a painful sense of discordance. This same difficulty applies, indeed, to the feeling which is excited by some ludicrous trait lying amid other admirable qualities; for admiration appears just as antagonistic to laughter as pity. The explanation of this phenomenon may perhaps be found in the fact that an element of sharp transition and contrast is essential to the keen enjoyment of laughter. The more abrupt the transition from the previous state of feeling to the new emotion of laughter, the livelier will be the resulting enjoyment. Hence the peculiar relish of hilarity which one experiences in noting the weak sides of a really admirable and amiable character; hence, too, the special delight

which belongs to these instances of pathetic humour. The sad and distressing element being but insignificant, there is no feeling of painful distraction in the mind of the observer, such as arises when the laughable is joined with the deeply degrading; but the two feelings help to support and to relieve one another. It may be added that this composite sentiment is eminently a modern feeling; and this fact may perhaps show that with the increase of moral sensibility the mind is quicker to detect the less obtrusive sides of pathos.*

In these several ways, then, the impulse of laughter has been transformed, from a cold and cruel exultation at another's abasement, to the harmless and kindly mirth which utters itself at the sight of painless foibles and human incompleteness. At first sight this change of sentiment may appear to have entailed a loss of intensity. One must admit that by this transformation a large field of character and action has been excluded from the domain of laughter.† The exhibitions of the utterly low and mean, and even of the weak and helpless, which so frequently delighted our ancestors, afford a cultivated modern mind merely a sharp pang of pity, or a moral contempt and loathing. Yet while the area of laughter has thus been narrowed in one direction, it has been enlarged in another. Through the cultivation of intellect and imagination, there is opened up in the ever varying play of human character a new world of amusing spectacle, which the duller sensibilities of our less humane ancestors had never discovered.

We may now pass to the consideration of some æsthetic features of character, the appreciation of which involves a more distinct intellectual process, namely, a perception of some mode of Unity among the various parts and aspects of a character. The æsthetic feeling for unity appears to involve two distinct gratifications. First of all, it is a law of our emotional life that any feeling excited in the mind tends to rule the whole of consciousness, so as to exclude all impulses and ideas which do not harmonise with it. Hence when a feeling of admiration or laughter has been called forth by a particular character, the mind looks for a recurrence of

* The essentially modern character of humour has been frequently dwelt on by German writers, *inter alios* by Jean Paul Richter, in his *Vorschule der Æsthetik*.

† Lessing has clearly indicated this transition in contrasting the provinces of laughter and contempt (*Lachen* and *Verlachen*).

a like phase in the same individual. This is the action of the principle of *emotional* harmony. Secondly, the discovery of some like feature among diverse objects is itself a pleasurable act of consciousness. It enters into the scientific impulse to assimilate the multifarious details of nature, and it affords a proper æsthetic delight in the perception of balance, symmetry and unity. This side of the æsthetic sentiment may be attributed to a principle of *intellectual* harmony. It is obvious that all such recognitions of unity aid perception, the very essence of this mental act being indeed the assimilation of the unlike. Out of these impulses there grows a permanent emotional desire for unity, so that any object which fails to exhibit it disappoints the observer.

An illustration of the action of the principle of emotional harmony may be found in the æsthetic value of Simplicity of character. A very simple character is one which presents one or two dominant phases instead of numerous qualities subtly interwoven. Hence it seems to gratify the emotional instinct for harmony. A ludicrous character, for example, in which the laughable trait is always coming to the surface, or an admirable character which is uniformly admirable, affords an observer a certain unity of sentiment. At the same time, such simplicity of mental structure obviously facilitates the comprehension of character, and the retention of it as a clear conception, so that the pleasing impression involves an intellectual satisfaction as well. This simplicity sometimes presents itself in a moral or volitional aspect as a concentration of purpose, or an unswerving devotion to one supreme end. However these characters may strike one, from other points of view, as defective and unbalanced, the presence of an easily recognizable unity of structure does not fail to invest them with a certain charm for our æsthetic feelings of unity. Readers of George Eliot's works may find examples of this effect in such types of character as Savonarola and Dinah Morris.

The simplest form of an expectation of uniformity in character is involved in a desire for Consistency or a due correspondence of the various feelings and actions of an individual mind. In observing human character, single feelings or actions interest us chiefly as criteria of general tendencies. We seek, from an impulse, partly intellectual, and partly emotional, to group every new manifestation of individual character with similar manifestations in the past, and in this way to arrive at a clearer conception of the

particular disposition and character. This intellectual desire to comprehend requires for its satisfaction simply the presence of consistency and unity. The proper æsthetic feeling of harmony, on the contrary, finds its peculiar satisfaction only when this unity reveals itself amid a *picturesque diversity*. Accordingly, the highest form of this pleasure is realized in watching the play of the manifold mental forces amid the changing circumstances of daily life, and in tracing, under all the seeming fluctuations and superficial contradictions of conduct, a fundamental unity of disposition and a permanent character of mind.

In these instances of great simplicity of character, the feeling for unity is gratified quickly, and the pleasure soon ceases. When, however, the connecting thread of order is less superficial, the resulting satisfaction is a deeper one. This gratification is realized when the whole character presents many sides and contrasts. A picturesque and symmetrical character pleases us through the recognition of various elements, emotional and intellectual, combined in certain proportions. The element of unity in these cases does not lie wholly in the inner relations of the various parts of the character itself, but must rather be looked for in some of its outer relations with other objects.

Of the harmonious relations which a character may enter into with external existences, one of the simplest is its due Correspondence with its immediate Environment. We never consider a person's character as an isolated object, but view it in relation to the circumstances, material and social, which surround it; and in the degree in which we recognize it as answering to these, we attribute to it the pleasing quality of fitness or adaptation. Although some knowledge of human nature is certainly implied in this conception, yet the observer does not distinctly compare the individual character with any type or order of characters; but, assuming the existence of general uniformities among individual minds, he seeks to fit in, so to speak, the given character to its surroundings. This aspect of character is very analogous to the æsthetic side of fitness in the useful arts. Through numerous experiences the mind comes to associate certain varieties of external circumstances with certain peculiarities of character; and the conformity of a new case to these conceptions impresses the observer as natural and harmonious.

This correspondence, moreover, may be viewed in one of two ways. The character may be regarded either as a Product of external causes, or as an Instrument fitted for a recognized destiny. In the first in-

stance the character seems natural; in the second, suitable. To trace out the manifold influences of circumstances on character, affords a very refined pleasure to an observer of human nature. It contributes a considerable element of its enjoyment to the contemplation of the best embodiments of character in fiction, and in this form it will have to be considered more fully by-and-by. The other aspect of the correspondence of character to environment, namely, adaptation, points to what Goethe has called the "necessity" which underlies our life, and to the need of certain moral qualities as a condition of a happy and complete existence. A character which appears thus suited to the demands of its environing world assumes the pleasing aspect of a beautiful well-ordered structure. This quality of fitness may attach itself to prudence, considered as the condition of individual happiness; and in this case this much-despised virtue reaches the highest æsthetic value possible to it. If the whole good of society is included in the end, the adaptation is found in a complete and perfectly regulated moral nature. This twofold fitness supplies one chief basis of unity of character, in addition to the internal harmonies already spoken of. A well-balanced moral nature consists of a large variety of mental forces, which do not easily group themselves under one or two general aspects. Its essential unity depends on the due adjustment of its various parts, and on their convergence to one large aim.

The perceptions of harmony in character just considered do not involve a conscious comparison of the contemplated person with other members of the human family. Yet such comparisons enter very prominently into our æsthetic feeling for unity of nature; and they are at the foundation of our sense of Naturalness in human character.* After a little experience of different kinds of character, we learn to judge every new instance in relation to previously known instances. It is obvious that a person's idea of naturalness will very much depend on the range of his experience and on the closeness of his observation. The first impulse of an observer is always to measure naturalness by a subjective standard, that is, by conceiving what he himself would feel or do in like circumstances. And

* The word natural is employed in very different senses with reference to character, though this feeling of correspondence to human nature in general is commonly implied, if not put prominently forward. Thus we deem a new action of a well-known friend to be natural when it seems to spring out of qualities already known. Sometimes the term natural is equivalent to free and spontaneous, implying that the individual is acting out his own wishes unfettered by social coercion.

this mode of appreciating character involves, as we have seen, the gratification of the observer's sympathetic impulses. It is an intellectual recognition of the source of this pleasure which supplies the most rudimentary notion of naturalness. With growing knowledge this standard is gradually elevated. First of all, through expanding individual experience, the subjective conception of the natural becomes enlarged. Secondly, repeated observations of others lead the mind to supplement its subjective standard by an objective one. That is to say, one learns to judge individual character by a reference to other objective characters, as well as to one's own mind. Further, with advancing culture, the mind recognizes the individual differences, as well as the points of similarity, among characters, and thus learns to distinguish the essential and invariable aspects of human nature from its individual variations.

It is this cultivated feeling for a fundamental unity among all types of character, which affords one of its principal delights to the æsthetic contemplation of human nature. The highest degrees of this pleasure are realized when the fundamental unity is not too obvious, but presents itself to the reflective mind amid innumerable details of individuality. Accordingly, the fullest realization of this gratification is only possible to the careful student of human nature. An ordinary reader of Shakspeare, for example, knows but little of that exquisite satisfaction which a Coleridge or a Gervinus experiences in tracing out all the deep-hidden touches of human nature which are discoverable in the poet's numerous creations. Unlike these searching observers of character, less intelligent people, who are wholly unaware of the endless diversities of individual character, derive comparatively little pleasure from such perceptions. To such a person, many of the most truthful delineations of the drama and of the novel necessarily appear unnatural; and the constant delight which attends the appreciation of subtle veins of a common humanity, running in unbroken continuity through all varieties of individual character, is reduced in his case to an occasional pleasant surprise at lighting on traits, with which his accidental sphere of observation may have rendered him familiar.

Yet, even in the case of the cultivated mind, this very general idea of human nature seldom forms the sole or chief standard of naturalness. The pleasure of harmony is more commonly realized through a comparison of an individual with others of a given class, in referring it to a certain Type of character. In the proper æsthetic

observation of character, as distinguished from the psychological study of it, we need as our standard of comparison an ideal conception sufficiently concrete, that is to say, one made up of a certain group of mental qualities which are frequently united in actual human nature, and which constitute a distinct variety of human character. This typical idea may represent either a historical period, a distinct nationality, or a particular sex, age, or social rank. In appreciating, for example, a female character, such as Portia or Cordelia, we lay chief stress on its womanly aspects.* Similarly our pleasure in studying a historical personage, as for example Cato or Alcibiades, is due in part to a recognition of national characteristics.

A still more curious illustration of this tendency, to compare individual character with some pre-existing idea of a type, may be seen in the common division of characters themselves into certain *classes* and *sub-classes*. Such types are selections formed by a few prominent or fundamental qualities, the presence of which is a clue to a large number of habits and modes of feeling. As an example of a type of character resting on a prominent quality, we may take the vain and egoistic man. The determining quality in this case is very easily detected, and is commonly suggestive of a certain intellectual poverty which serves as a target for the shafts of laughter. When the distinguishing peculiarity is some radical mental attribute, which permeates a large part of a person's activity and life, such as exceeding cautiousness, strong impulsiveness of will, or great delicacy of sensibility, the recognition of this trait in a new individual gives the observer a wide scope for discoveries of naturalness. The subtle processes of thought, by which we run through the various words and actions of a new individual submitted to our notice, tracing out the leading and determining features of character, and the conformity of all subsequent manifestations with these characteristics, contribute not a little to the æsthetic interest which every fresh revelation of human nature is apt to awaken. In all such observations, the impulse to understand, and the desire for unity or harmony appear to blend in one motive, and to contribute a double satisfaction to the discovery of subtly interwoven unities of character.

It may be remarked that this typical aspect of human character supplies another external standard, by which we appreciate the in-

* The character of Beatrice is deemed by some critics, by Campbell among others I believe, to be wanting in the distinctive attributes of her sex.

ternal unity of a particular nature. It has already been observed that in looking at the various parts of a complex character it is difficult for the observer to connect them in thought under any simple plan, so long as he attends merely to the internal relations of the object. We have found one uniting bond, lying beyond these limits, in the relation of the individual mind to its environment. We may now discover a second basis of unity in the correspondence of a given character to a general type. When the several parts of a character are seen to belong to a familiar type, they appear to become re-united among themselves, and to make up one harmonious whole. Even a vague reference of a character to an idea of human nature in general may impart to it a certain aspect of unity. The few larger natures which manifest a wide variety of human attributes, or a high development of many intellectual qualities and emotional susceptibilities, appear to be united wholes in relation to the ideal type of a complete human nature. These many-sided yet consistent natures contribute ample gratification to the æsthetic sentiment of harmony. Nevertheless, they are wanting in that particular charm of unity which, as we have seen, belongs to characters of a less complex structure. When a new mind is seen to present in a high degree the characteristic attributes of a class, these prominent features serve as a kind of centre around which the observer easily groups the less conspicuous qualities. Their influence appears to be analogous to that of a dominant key or of a prevailing tone of colour, which, as an impressive and ruling feature, serves to arrest the mind's attention, and to supply a point of measurement for all other details.

It has already been hinted that a fine sense of the harmonious serves as a constant regulator of the more cultivated æsthetic appreciations of character. Thus, all that is merely odd or surprising in individual feeling and action has only a momentary interest for a thoughtful observer unless at the same time it satisfies his sense of naturalness. This influence of a feeling of harmony on the higher æsthetic impressions may be observed in the growing repugnance of cultivated minds to what is simply horrible. This is due not merely to the development of a quicker sympathy, but also to the growth of a more elevated idea of normal human nature. Our moral sensibility goes in advance of our actual observation, and shapes mankind according to the model which all social progress and culture apparently tends to produce.

We may see the supreme influence of harmony on our æsthetic judgments of character, not only in the gradual exclusion

of unnatural features from the category of æsthetic qualities, but also in the attribution of a special æsthetic value to qualities, otherwise interesting, which satisfy the sentiment of harmony. As a conspicuous example of this effect I may point to the special charm of a ludicrous quality which is felt to be natural. While to a reflective mind what is simply bizarre ministers but a faint amusement, the presence of some foible that is eminently characteristic awakens abundant mirth. It is this fact which explains the special fascination of some of Molière's figures. The effect will be heightened, moreover, when the ludicrous weakness is seen to be connected with some prevailing excellence, so that there is not the slightest temptation to indulge in the more contemptuous form of ridicule. Lessing seems to me to have very happily realized this effect, in his *Minna von Barnhelm*, in the character of Tellheim. The whole comicality of this play turns on the quaint development of a blind obstinacy of purpose, into which a too delicate feeling of pride and of reverence for the code of honour has precipitated a gallant officer. Similarly, great amiability is very apt to run into forms which cannot but excite a gentle amusement. In all such instances, the amusing blemish is recognized as a proper and natural concomitant of real moral worth; and in this way the ruling sense of harmony comes in to sustain a pleasurable effect which is due to some subordinate æsthetic susceptibility.

In order to complete this sketch of the æsthetic aspects of character, it may be well to inquire a little more fully into their connection with the Ethical aspects. That is to say, we may seek to determine the precise relation of those qualities which satisfy a sense of right or call forth a sentiment of moral praise, to those which please a spectator simply as objects of contemplation. Philosophers and poets have written vaguely about the identity of the Good and the Beautiful. On the other hand, not a few have sought to banish from the region of art every vestige of moral rule, and to treat the recipient of æsthetic impressions as one who, for the time, has parted with his customary moral sensibilities. Such a chaotic condition of ideas can scarcely satisfy a sincere searcher for the truth of things; and if our method of examining the effects of character be worth anything, it ought, one supposes, to bring us nearer a solution of this interesting problem.

That we may form a correct estimate of the question, we need to remember, first of all, that a large part of the æsthetically pleasing in human character lies wholly beyond the reach of moral sentiment.

As a spectator one may be interested and gratified in watching the play of a feeling or of an action which has no ethical value at all. Sufficiently obvious though this fact may appear, the non-recognition of it appears to have led more than one "æsthetician" into needless vagueness, if not into contradiction. Setting out with an *à priori* assumption that the good is only the other side of the beautiful, these thinkers are apt to despise the plain method of induction which the facts themselves afford us. For our purposes, however, this method is all-sufficient. By means of it we at once learn that much of the graceful and even of the beautiful in human character belongs to qualities of mind which, strictly speaking, have no ethical character. Thus, for example, the gay-heartedness of a healthy child is æsthetically charming, though it would be difficult to determine the quantity or quality of the moral sentiment appropriate to it. Similarly, the comical aspects of character extend through a myriad morally colourless details, such as characteristic preferences of dress and speech, quaint intellectual habits, and so on. The æsthetic contemplation of character knows no limits corresponding to those of the moral judgment. To the judge of right and wrong only those actions and dispositions are of interest which have a bearing on the welfare of others.* The whole area of private life which lies inside this circle is to him unproductive ground. To the more disinterested æsthetic spectator, on the contrary, all that lies within this enclosure is as rich and valuable as that which lies outside. Indeed, the region in which the individual, unfettered by social restraint, most fully betrays his own ideas and impulses, has a peculiar value for him.

But though we may derive ample pleasure from the observation of the spontaneous play of character beyond the limits of moral control, does it follow that we can divest ourselves of our moral sensibility when contemplating the æsthetic side of feelings and actions which fall within these limits? Certainly not. The sense of right, together with the sentiment of moral esteem, is as much a constant element of the cultivated mind as a feeling for the graceful or the ludicrous sides of character. Nay, more, the action of social education tends to make these moral sensibilities the most quickly responsive and vigilant parts of our nature. Through this discipline, commenced so early, rendered so severe, and protracted through one's whole life, the impulse to judge of the moral value of actions and

* This criterion of morality has been conceded even by so pronounced an intuitivist as the late Professor Grote.

feelings is rendered an ever-present susceptibility in the trained mind, scarcely less quick and certain in its action than the natural sensibility of the eye or of the ear. Accordingly, the gratification of moral feeling must always be included in a calculation of the total pleasurable effect which a given character is fitted to produce on a cultivated spectator. Conversely, one may say that a mode of feeling or of conduct, however charming in certain of its aspects, must evidently lose in value as a grateful spectacle, if it distinctly offends the observer's sentiment of moral rectitude. No doubt the careful observer will be able to distinguish this moral aspect of a quality from its æsthetic side; but the moral impression still remains an inseparable ingredient of the spectacle.

There appears, therefore, to be no reason for regarding, from our present point of view, the moral feelings as radically different from the other sensibilities which take part in the pleasurable contemplation of human character; and we may at once proceed to examine into the nature of the pleasure which these feelings are fitted to derive from this mode of activity. In doing so, moreover, it may be possible to determine the æsthetic value of the moral, as compared with the other attractions of character, and to suggest how far mere moral propriety may render a character an interesting object of contemplation, and how far æsthetically fine elements in the morally unworthy may redeem such characters from their otherwise displeasing aspect.

Let us, then, first of all, briefly sum up the pleasing elements which enter into all good and virtuous qualities of mind. To some of these I have already had occasion to refer. Thus, for example, a good action is one which benefits somebody else besides the doer; and a lively sympathy in the spectator may derive an appreciable modicum of pleasure from the imagination of this happy effect. In order that this pleasure may be a pure æsthetic feeling, it must be disinterested, not depending on any suggestions of possible and remote advantage to the observer himself. No doubt, in actual life the sight of a benevolent character is apt to afford us a pleasing solace through a vague idea that we may possibly derive some benefit from the same estimable quality. But such personal reflections are excluded from pure æsthetic enjoyments. Accordingly, the proper æsthetic gratification in the recognition of moral goodness arises from a sympathetic felicitation of the direct recipient of the benefit. It is that species of pleasure to which Adam Smith gave so much prominence in his ethical system, and which he discusses under the

title, *The Beauty which the Appearance of Utility bestows upon the Characters and Actions of Men.** As common illustrations of this pleasing quality, I may mention the disposition to self-sacrifice and the impulse of chivalrous generosity. All such traits of moral character charm us by their happy consequences, while, as we have seen, they call forth an impulse of tender regard for the subject of them.

Again, as I have already suggested, moral rectitude satisfies a sentiment in the spectator very akin to a sense of harmony. One effect of moral culture is the production of a disposition to expect a certain moral conformity in our fellow-men; and the satisfaction of these anticipations is attended with a quiet flow of pleasurable feeling, while the disappointment of them produces a sense of discord. In such cases the observer may either connect the disposition with certain fixed ends of society, or distinctly compare the subject of the quality with a typical idea of a complete moral nature. In the former case, one's sense of harmony is gratified by finding that the particular aim fits in as a consistent factor into that realm of individual ends (to use the words of Kant) which makes up universal law. Or, if one attends less to the particular disposition than to the whole character of which it is a factor, one experiences a pleasurable sense of harmony in an easy assimilation of the individual mind to a typical idea of a good and virtuous man. All these aspects of correspondence or harmony have a certain grateful effect on an adequately cultivated mind, and afford a pleasurable element to the contemplation of moral worthiness.

Yet while admitting that morality presents aspects æsthetically pleasing, one may still ask whether these qualities uniformly catch the golden light which alone transmutes the common in human character into the charming and the beautiful. Scarcely anybody, one imagines, would venture to affirm that they do. If our every-day modes of conversation and our current criticisms mean anything, one may safely infer that many of the most correct and morally estimable people are exceedingly uninteresting, both in actual life and in the world of fancy. One must conclude, therefore, that morality is no certain criterion of an æsthetically interesting character. Consequently, we have to inquire how it happens that the gratifying aspects of moral goodness have so frequently no perceptible influence on our æsthetic appreciation of character.

It needs to be remarked here that in nearly all manifestations of

* *Theory of Moral Sentiments*, part iv., chap. ii.

ordinary morality, as distinguished from exalted virtue, there are elements unfavourable, as well as favourable, to our æsthetic sensibilities. I have just observed that the perception of moral rectitude satisfies a feeling of harmony. Yet the higher degrees of the pleasure of harmony are realized only when the unity is slightly disguised—softly shining, so to speak, through a veil of diversity. Now common morality offers but very little scope for this play of imagination. To estimate the ethical value of actions commonly means to apply a definite and fixed rule; and in most cases, the conformity of a new instance to such a rule is so obvious that its appreciation scarcely brings with it a perceptible thrill of pleasure.

There is another reflection which appears to point to the same conclusion. In our daily moral judgments we have to assume a *constrained* attitude of mind, which is scarcely compatible with a spontaneous æsthetic enjoyment. Acting as members of society, we feel something of the oppressiveness of a weighty responsibility, and this sense of constraint checks for the moment the play of the lighter æsthetic impulses. Once more, the moral sentiment is closely related to volition and action. We feel impelled to requite a bad or good deed which we happen to witness. And this activity of the will is antagonistic to the calmer and more contemplative moods of æsthetic appreciation. This conclusion, moreover, perfectly accords with the fact, that in appreciating comedy and the lighter species of fiction, we are only too disposed to throw off, for the nonce, the constraint of the moralist, and to enjoy the play of character just as though the wild freaks of individual temper and caprice which we are witnessing had no possible bearing on human order and happiness. Our conclusion is borne out, too, by the other fact that in actual life the ethical and æsthetic feelings tend to exclude one another. A person engaged in seriously weighing the moral quality of an action is scarcely disposed to consider its lighter æsthetic aspects, and *vice versâ*. Further, while the severer mind of the moralist is rarely susceptible to all the grace and charm of character, the lighter nature of a man of artistic culture is frequently unimpressible by the moral aspects of conduct.

In addition to these general considerations respecting the æsthetic deficiencies of ordinary morality, there are more special considerations which lead to the same result. Thus, for example, a performance of duty which is morally unimpeachable may pain an observer through its suggestions of constraint. The kind of action most pleasing to witness are pleasurable ones; and for this reason, perfect

spontaneity of conduct is essential to a highly charming exhibition of character. But a large part of moral conduct, at least in the early stages of education, is due to external pressure, which is intended to cross and check the individual's natural propensities. This effect of constraint may be hidden by its subject, and may even disappear altogether in the mature mind perfectly moulded to its surroundings. Yet suggestions of such constraint very frequently destroy the æsthetic charm of really worthy conduct.

Another discordant element which occasionally enters into right conduct lies in the effects of the action on others. While suggestions of the happy consequences of a good action render it a pleasing object of view, those of its painful results may at times detract from its æsthetic value. The performance of duty is frequently the balancing of interests, that is, the infliction of a certain amount of evil for the sake of a greater good. The recognition of these ingredients in morality takes off from its value for our æsthetic sensibilities, which require the purely pleasurable in the contemplated object. Nor is this all. In witnessing many of these severer performances of duty, the observer has to conceive the agent, either as harsh and insensible, or as engaged in a painful struggle to repress natural feeling. Thus, such deeds as those of Brutus and Agamemnon, however praiseworthy on moral grounds, and however imposing as exhibitions of power and self-control, are felt to be too painful for undisturbed æsthetic contemplation.

It appears, then, that a large part of ordinary morality, though, viewed abstractedly, it may contain some pleasing elements of contemplation, falls far short of the quantum of interest required in æsthetic impression. The pleasing ingredients of a moral act are often too insignificant to affect appreciably the resulting impression, and it sinks in this case into the dull region of commonplace, even if it does not repel by some positive distastefulness. Yet the clearest recognition of this fact in no way necessitates the inference, that æsthetics may ignore morality—that the artist may construct his characters without any reference to ethical value. For it should be remembered that though the feeling of simple approval is a very insignificant pleasure, that of strong disapproval may be a very intense pain.* The spectacle of a deep immorality produces a painful shock to a rightly formed mind, which cannot but constitute a very pro-

* This follows from the fact that approval is simply a negative feeling and admits of no degrees, whereas disapproval may range through all varieties of in-

minent element of the whole impression received from a human character. In spite of the slightly redeeming aspects of the hateful already spoken of, one may say generally that qualities which severely violate the observer's moral feeling are rendered unfit for the pleasing region of æsthetic presentation. Accordingly, since both bare morality and gross immorality are thus seen to have little or no æsthetic value, one must look for the displays of high æsthetic attraction of character, either in the spontaneous play of feelings and actions which have no ethical quality, or in those regions of voluntary conduct which, besides simply satisfying the moral sentiment of approval, awaken a glow of some intenser feeling, whether of love, of admiration, or of reverence. That moral traits, simply as such, may become a highly attractive spectacle, is, one supposes, as self-evident a proposition as that a mere average morality may be dull and unimpressive. Accordingly, a brief notice of these æsthetico-ethic qualities of character will complete our present analysis.

We have seen that the frequent dulness of moral qualities, as objects of æsthetic contemplation, is due to the monotonous regularity of our ethical appreciations, and to the element of constraint which characterizes the exercise of the judicial function. We may expect, therefore, to find the charming and impressive aspects of morality where these drawbacks are removed, or at least rendered inappreciable. The effect of monotony will obviously be counteracted in the case of all extraordinary performance of duty, as well as in that of unwonted virtue. At the same time, the feelings which such rare and admirable qualities excite will lift the observer out of the forced attitude of mind which befits the mere moralist. Again, the function of the moralist is chiefly with actions and their immediate mental antecedents. On the other hand, the æsthetic eye seeks to trace out all the subtle accompaniments of actions and the traits of character of which they are the criteria. In this way what is merely a proper action, considered morally, may afford, through its train of suggestions, a considerable æsthetic pleasure. Thus, in proportion as moral conduct rises to some rare and exalted manifestation, or is a clue to worthy and interesting mental qualities, it becomes æsthetically pleasing. Each of these forms of interesting moral quality deserves special illustration.

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tensity. The proper counterpart to this last is praise, as distinguished from approval, in its narrow sense; and this will be discussed presently.

First of all, then, the concomitants of a moral action may be striking and pleasing, and call off the observer from a strict exercise of ethical judgment. This happens when we are sure that the action is done from spontaneous impulse, and not under the immediate pressure of external coercion. For example, when we see a natural feeling of kindness prompting a child to an untaught duty, our æsthetic interest in the child's nature is apt to overpower our judicial interest in the action. In all cases where the performance of a right action presents itself to the observer, not as a mere compliance with a recognized law, but as the outcome of an abiding sentiment, it tends to become æsthetically valuable. Similarly, when the observance of duty is carried into very minute details, which are not controlled by definite and stringent moral rules, it interests us mainly as the fruit and evidence of a high degree of moral worth. In all such cases the effect on the observer is less a satisfaction of moral expectation than the excitation of a warm, tender sentiment, such as is called forth at the sight of a highly virtuous action.

A fulfilment of duty may become æsthetically pleasing, by reason not only of its mental concomitants, but also of some intrinsic quality of the act itself. The characteristic æsthetic charm of voluntary action lies in the impressiveness of moral force, which forms one aspect of such qualities as promptness, steadiness, and resoluteness of will. This attraction frequently belongs to right conduct, which, looked at by a narrow moral standard, is nothing more than bare compliance with a law. When this is the case, the formal and dispassionate judgment of the moralist is apt to be displaced by the admiring appreciation of the spectator. The sentiment in this case is a form of the feeling of the sublime, or, if the harder aspects of mere power are softened by indications of an amiable goodness, a mingling of affection and reverential regard, which is expressed, perhaps, most exactly by the word admiration. Examples of the moral actions which possess this kind of impressiveness will at once suggest themselves to the reader. Unswerving honesty amid great poverty, persistent veracity under great pressure of temptation, and long fidelity to a friend in absence, stir these warmer pulsations of affectionate esteem.

In all these illustrations of the interesting exhibition of moral obedience, we have been touching, so to speak, the confines of free morality or virtue. The discovery of unusual moral worth in the concomitants of an act of duty, and even the perception of a high force of will in its execution, is very apt to modify our purely ethical judgment, and to lead us to transfer the action from the department of

simple duties to that of meritorious virtues. Consequently, one may expect to find in the higher regions of virtue the most favourable field for the exhibition of the æsthetic attractions of morality. The inartistic associations of law and external coercion are here entirely wanting, and the actions present themselves to the observer as the spontaneous product of the individual's own nature. Even when the virtuous action involves a desire for praise, it still indicates a certain individuality of feeling distinct from the artificial and uniform motives which social discipline supplies. The promptings of love and of generosity, the free adoption through strong individual impulse of a noble course of conduct, reveal to us an inner nature which attracts our love and reverence.

The estimation of these virtuous actions, moreover, even on their properly moral side, does not call for that constrained attitude of mind which accompanies the judgment of simply right conduct. Lofty virtue is unapproachable to a severely judicial spirit. The narrow moralist mind may perhaps seek to estimate its degree of worth, and to measure out in thought the precise amount of reward it calls for. But even this impulse to reward is a very different feeling from the readiness to punish, which enters directly or indirectly into our judgments of simple right and wrong. It contains a distinctly pleasurable element, and, unlike the cold sentiment of bare approval, is of the nature of an affectionate impulse. It should be remembered, moreover, that to the vast majority of observers this judicial measurement of virtue is at best a very vague and incomplete mental operation. First of all, virtue is a positive addition to bare morality, and admits of an indefinite number of degrees, which it is very difficult to determine and to reduce to formal rules, corresponding to those of obligatory morality. Secondly, with respect to all the higher manifestations of virtue, the feeling of affectionate regard called up in the spectator unfits him for this exact kind of estimation. All feeling tends to magnify the worth of its object; and the glow of pleasurable admiration which answers in the observer's mind to the brilliant light of a noble action unfits him for a strictly moral appreciation.

In this region, therefore, we may reasonably look for some of the most impressive and beautiful revelations of character. The comparative rarity of many of the higher virtues will continue to secure for them the charm of a striking and novel spectacle, while the moral feeling awakened by them lends them the warm tint of the admirable. One may add that such exhibitions of character,

however rare, are never felt to be unnatural, since, as I have remarked, our moral feelings co-operate in the construction of the ideal standard of human nature. No doubt, even a very virtuous act, to which the moralist has to assign a high value, may fail to be pleasing, if its mental accompaniments are petty or discordant. Yet one may say that in the majority of cases the æsthetic value of lofty virtue varies as its ethical value.*

In concluding this analysis, I may refer to the subtle modes in which these various æsthetic attractions of character combine in the most delightful and beautiful instances of human nature. As we have seen, there is an emotional impulse which derives pleasure from great simplicity of character. But this influence is amply balanced by another, namely, that due to the rival activities of the several emotional susceptibilities. While the play of any given emotion induces a desire for some one order of trait, as the ludicrous, or the amiable, the play of all the emotions induces a desire for great variety of pleasing quality. Hence the æsthetic value of a rich, variegated, and many-sided mental organization, and the estimation of a nature of an opposite order as poor and incomplete. Again, some of the æsthetically pleasing elements of character tend, as I have hinted, to exclude one another. Thus, for example, great force of individuality is opposed to a harmonious conformity with human nature, and the impressive grandeur of an imperious will is incompatible with the charm of a gentle and deferential nature. Hence, a well-balanced nature, in which such opposing qualities are united and reconciled, is a delightful object, not only because it harmoniously corresponds to a complete typical nature, but also because it satisfies a number of different æsthetic susceptibilities. One does not wonder, therefore, at the high rank which seems to have been universally accorded to such a moderate and proportioned style of character.† At the same time, the several emotional susceptibilities derive their fullest gratification, not from a simultaneous presen-

* This appears, indeed, to be sufficiently shown in the use of language. The terms noble, lofty, dignified, etc., when applied to human actions and dispositions, connote both a high moral worth, and a certain impressive beauty as objects of contemplation. No doubt the two aspects are not always equally conspicuous, as one may see in the Greek conception of virtue, which gave chief prominence to the æsthetic aspect.

† The fact that Aristotle, in his well-known definition of virtue, made its differentia to consist in the attainment of a certain mean between two opposed qualities, the differentia seems to confirm the supposition that to the Greek mind the æsthetic sides of character were more impressive than the purely ethical.

tation of many distinct qualities in one and the same mind, but from the spectacle of many different types of character, picturesquely varied by innumerable shades of individuality. Hence, we do not look in a highly beautiful character for all, or even the greater number of the pleasing aspects of human nature. We are satisfied if it combines such agreeable qualities in numbers sufficiently large to invest it with a certain degree of fulness and impressiveness, and at the same time, with a complexity of arrangement sufficiently great to clothe it in aspects of freshness and grateful novelty.

Thus we are brought back to the reflection with which we set out on this investigation of character. The amplest enjoyment derivable from the contemplation of human feeling and action is realized when there exists a type of society which presents a high degree of variability of individual character. If one leaves out of view that necessary amount of uniformity which is imposed by the ends of social life and morality, and which, as we have seen, is not wholly antagonistic to æsthetic pleasure, one may say that the freer the play of individual impulse, and the development of individual nature, the larger will be the area of delight supplied by the immaterial world of human character to every sensitive and cultivated observer of the beautiful.

# THE REPRESENTATION OF CHARACTER IN ART.

In the preceding chapter I sought to define those features of actual human character which, by right of their pleasurable impression on the mind of a disinterested spectator, acquire the rank of æsthetic objects. In this analysis I aimed at supplying a psychological basis for a scientific theory of those departments of art which are principally engaged in the construction of ideal human character. With this foundation securely laid, it ought not to be a difficult task to trace out the manifold sources of pleasurable effect which give their æsthetic value to these products of artistic imagination.

It is to be observed that the charming and impressive aspects of character with which our attention has been engaged, although a main ingredient of pleasurable effect in these character-arts, are not the sole means at their disposal. Hence, the selection of these aspects will always be limited to some extent by other artistic requirements. Again, one must remember that all art impresses a certain *form* on the pleasurable materials of which it makes use. Thus it will be found that the charm residing in human character becomes transformed into a slightly different emotional force when it is taken up into the airy region of imaginative creation. Finally, it may be remarked that the sensuous medium which a particular art employs will always have an influence on the æsthetic quality of any pleasurable object which it seeks to represent. For example, the impression conveyed by an utterance of a noble impulse will not be precisely the same when the medium is the *visible* expression of a picture, and the *audible* expression of a poem.

In examining these transformed embodiments of character in the several arts it may be sufficient to consider the literary and poetic varieties, more especially the drama and the romance or novel. Painting, and even sculpture, are no doubt employed to some extent in illustrating character. Yet their function in this respect is comparatively limited. This is to be explained in part by the fact that they have to pourtray a momentary phase of an individual mind, and further, that they lack the grand instrument of verbal expression.

Again, as Lessing so well showed in the *Laokoon*, these arts, as employing the visible and immediately present, are greatly circumscribed by requirements of the physically beautiful, and have much less scope for depicting varieties of emotional mood.* In one respect indeed, as Lessing has also remarked, the painter or sculptor who wishes to embody character requires a deeper knowledge of human nature than the novelist himself, since he has to seize and to render permanent the most characteristic and pregnant among the momentary manifestations of a given type of disposition. Yet this peculiar excellence, which owes its existence to the very limitations of the arts, scarcely compensates for the disadvantages just enumerated. Accordingly we may appropriately omit any further consideration of these departments of art from our present inquiry, and confine our observations to the arts of character *par excellence*, namely, Dramatic Poetry and Fiction.

In considering the æsthetic effects of character as represented in these species of art, it is possible, in the first place, to regard their embodiments of human feelings and dispositions as a simple reproduction of actual nature. Our inquiry would thus be limited to the question: By what means are these arts able to afford us the proper impressions of real, living character? This point may well appear sufficiently self-evident; yet it is possible that a brief discussion of it may serve to render clearer our comprehension of the whole subject.

In actual life we observe the play of a person's inner impulses through his expressive movements, his language, and his voluntary action. In contrast with these wide avenues of knowledge, the scope for observing character in a novel or an unacted drama appears scanty enough. The immediate impressions of these works of art are nothing but verbal signs; and these have to suggest to the reader's mind, not only the spoken words of the several persons represented—which is a tolerably easy matter—but also an intricate series of visual and other impressions, such as those conveyed by the person's figure, dress and outward carriage, by the varying cadences of his voice, and so on. Yet though this medium of suggestion may

* Lessing here treats of sculpture and painting together under the term "*die Malerei*." It is no doubt true, as Dr. Max Schasler observes, that the great critic, by not sufficiently distinguishing between the two species, failed to do justice to the power of painting in the representation of the characteristic, the grotesque, etc. Yet though there is this difference, Lessing's canon applies to all forms of visible art, *quâ* visible and immediately presentative.

at first sight appear very inadequate, we find that by help of it we may partake in the vivid interest of a present reality. The audible and visible word is so closely bound by links of association with other impressions of the senses, that it instantaneously calls up groups of ideas scarcely less distinct, if less vivid, than the corresponding sensations.

As a proof of the efficiency of these verbal links of suggestion, we have the fact that when they are skilfully arranged in precise agreement with the order of actual experience, the whole series of conceptions called up acquires such a clearness, solidity, and persistence, that the mind is powerfully inclined to believe in a corresponding outward reality. In the production of this conviction of reality, every successive touch of ideal imitation has an appreciable effect, serving to render the whole conception, say of a distinct personality, more complete, life-like, and durable. All reflective readers must have been conscious of this gradual development of conception and of belief during the perusal of an able novel. One is, perhaps, most distinctly aware of this intense confidence in reading the last chapters of a good novel; and this assurance one finds to remain after the fictitious nature of the whole has had time to betray itself again and again. In the visible spectacle of an acted drama, the presentations of character are, of course, more immediate, and belief in the reality becomes more instantaneous. At the same time, the distracting theatrical surroundings are very apt to check this delusion, and to make our belief in the reality of a stage-action much more fitful and evanescent than the confidence which slowly deepens during the absorbing perusal of a well-constructed story.

It may be well to add that the drama and the novel do not possess precisely the same appliances for illustrating human character. Whereas the acted play supplies the large and unspeakably valuable instrument of visible and audible expression, which the novel can only suggest imperfectly by description, this inequality is more than made good by the freedom which the latter possesses in describing the invisible and even inaudible thoughts and impulses. The dramatic poet who wishes to supply the inner clue to the outer action, has to resort to the somewhat unnatural expedient of making his heroes betray their emotions and purposes in monologue. The novelist, on the contrary, who is conceived to be a kind of omniscient witness of the persons and actions he describes, may lead the reader into the private recesses of a life, and disclose to him the subtle, silent processes which precede its external manifestations.

Thus far we have regarded the effect of imaginary character, as the same in kind as that of the corresponding reality. The ideal representations of fiction tend to be received as the equivalents of objective facts; and so far, of course, art may supply us with just those species of gratification which we have found to belong to the several æsthetic aspects of living character. It must now be added that the whole impression conveyed by such an imaginary character is not precisely the same as that of the corresponding reality. When, for example, we meet with an amiable character in actual society, the feeling awakened nearly always contains an ingredient of private or personal interest. We experience a desire to know the agreeable person in some intimate relation of friendship, and we begin to imagine a number of possible events which may in the future supply us with the wished-for intercourse. On the other hand, in contemplating an ideal form of character, this disturbing and anti-æsthetic element is wanting. The observer is thus able to view his object in a more purely contemplative attitude of mind. In this respect, the observation of a fictitious character resembles that of a historical one. Indeed fiction makes use of a quasi-historical mode of representation, by speaking of its persons and events as things of the far-off past, having no immediate bearing on the reader's personal interests. Even in the case of an impressive dramatic spectacle, which seems to bring the reality so much nearer the observer, the element of personal consideration finds little if any room. However affected the spectator may be by a stage display of hero or villain, he scarcely falls into the delusion of conceiving any possible personal advantage or disadvantage from the existence of such a being. Hence the contemplation of fictitious character is more pure than that of real, from those elements of private desire which, as Kant said, are inimical to the æsthetic sentiment of beauty.*

The critical or discerning consciousness which is nascent in this perfectly calm contemplation, shows itself much more distinctly in the added pleasure which the mind derives from a sense of Truth to nature in artistic representation. This gratification appears, as I hope to show in another essay, to spring from a very primitive impulse, the activities of which one may easily observe in the mimetic play of young children. The interest of all imitation, which does not actually deceive, appears to arise from an agreeable tension of

* The indirect suggestions of personal bane or benefit conveyed by dramatic spectacle, which Aristotle recognized in his definition of Tragedy, will be spoken of in another place.

mind, under an impulse of belief in the represented reality and of wonder at its partial transformation. In the mature mind this feeling of mystery is exchanged for an intelligent appreciation of artistic truth. This riper sentiment contributes a perfectly new ingredient of pleasure to the contemplation of character in fiction. The critical and sceptical impulse to view the object as an artistic semblance comes into play again and again during the most absorbed contemplation of the artistic object. It appears most conspicuously, however, when the deeper interest of the subject itself has been exhausted, assuming the form of an after-play of intellect upon the subsidence of emotional excitement. This feeling of truth to nature may become so acute and quick as to supply of itself a considerable æsthetic gratification. It is to be remarked, however, that the feeling is much more intense as a pain than as a pleasure, and that a fictitious character which simply appears truthful and natural, and does not attract us through its inherent qualities, scarcely attains a high æsthetic value.

In this manner, then, the *representation* of human character in fiction appears sufficiently real to awaken just the same species of feelings which would be excited by the *presentation* of a similar type of character in real life. The intellectual activity which co-operates in the contemplation, resulting in a recognition of the imaginary nature of the object, while it adds a new and very distinct mode of pleasure to the enjoyment of the work, has scarcely an appreciable effect on the proper æsthetic gratification which accompanies the perception of the beautiful, the sublime, and the interesting in actual human nature. Accordingly, we need not enter again on a full consideration of these several features, but may pass to a closer examination of the added artistic effect in the perception of ideal character, namely, the pleasure which attends a sense of truthfulness.

In the last essay we discussed the peculiar gratification afforded by consistency of character and its conformity to general laws of human nature. The sense of truthfulness in ideal pictures of character includes this gratification and something more. When a person begins to look at these creations as works of art he acquires a feeling of appreciation and admiration for intelligent and faithful portraiture. It may possibly be objected that the appreciation of this side of art is a feeling, not so much for the result aimed at, as for the technical method employed. But this is scarcely an exact account of the matter, since all art, as distinguished from delusive artifice, owes an integral part of its pleasurable effect to a conscious discernment of the imitative. At the same time it is obvious that the full

appreciation of the artistic quality is only possible to one who has considerable knowledge of the objects and qualities imitated.

The various modes in which ideal character appears life-like or otherwise were touched upon in the last essay, in connection with the subject of naturalness. A reflective reader of a novel, or a spectator of a play, needs to *understand* the various feelings and actions which present themselves. It is evident that this comprehensibility can only be secured by an assimilation of the particular feelings to the general laws of human nature. Thus, for example, actions need to be clearly motived, emotions to be correctly expressed. Another and less obvious element of conformity to nature may be found in making all the inner relations of thought and feeling clear and natural. The representation of ideas according to the order of natural sequence, as well as the due recognition of the mutual influences of thought and emotion, supplies a fine test of an author's knowledge of the human mind. It is probable that very few writers, whether dramatists or novelists, could undergo the searching examination in psychologic accuracy, to which Gervinus has subjected Shakspeare. As a single example of this master's minute fidelity I may refer to the manner in which he makes the figures of speech employed by his characters correspond with, and so indicate, their previous circumstances and experiences. Thus for example, Othello, as Gervinus remarks, indicates the colour of his past life by the frequent use of images drawn from the sea, the battle-field, and the hunting ground.

Fidelity to nature in the construction of imaginary character shows itself not only in the observance of general laws of the human mind, but also in the adaptation of all the particular words and actions of a person to a definite individual conception. In reading a novel or in witnessing a new drama, the mind seeks, from impulses already described, to seize the leading traits of a particular character, by a knowledge of which it may understand all subsequent phases of the person's conduct. The poet and novelist are well aware of this impulse, and, for the most part, seek to assist the correct reading of a character in the earliest stages of the work. A novelist customarily does this by a rapidly drawn first-sketch, or by a brief *resumé* of the person's previous circumstances and education. The dramatist supplies the key-note of character either indirectly, that is through the conversation of others about the particular person, or directly, through a characteristic self-revelation of the person himself on his first appearance. Here again I cannot do better than refer

for illustrations to the king of dramatists. In how masterly a manner, for example, does he indicate the first eruption of a lawless ambition in Macbeth's reception of the witches' salutation, and the secret gnawing of an impotent discontent in Hamlet's first appearance in company with his mother and the king? Where these aptly selected characteristic scenes are sustained by appropriate and pregnant acting, the spectator gains a clear intuition of the individual nature represented. Many a fine point of criticism in estimating the naturalness of a particular course of conduct, turns on the correct apprehension of the fundamental qualities of the character. What is harsh and surprising in itself, ceases to be so when connected with the dominant traits of the mind from which it emanates. And thus a cultivated and imaginative reader discovers naturalness in modes of feeling and action which are inconceivable to the majority of persons, whose minds are only capable of appreciating human feeling so far as it coincides with their individual experiences.

In concluding these few illustrations of the pleasure derivable from a recognition of verisimilitude in ideal character, I may just observe how greatly it enlarges the sphere of artistic effect. Were it not for the gratification of this refined sentiment, the novelist could represent only those varieties of character which have some of the intrinsic attractions discussed in the previous essay. Yet who does not feel that many of the characters which possess a real interest in fiction would be exceedingly dull if met with in real life? One suspects, for instance, that some of the entertaining side figures in *The Mill on the Floss* would be positively dreary acquaintances. Such an ideal portrait owes its chief attraction to the charming manner in which dominant traits are hit off, and the whole character rendered clear and harmonious.

Art delights us as a faithful copy of nature, yet not merely in this aspect. It has often been observed that a slavish and unreflecting reproduction of nature's details can never constitute art. Only when an artist comprehends the totality of nature, recognizing the essential and the non-essential, the more and the less worthy, and the compatible and the incompatible, and only when he adapts his picture of nature to the emotional sensibilities of the human mind, elevating what is pleasing, and disguising what is offensive, can he reveal nature to us as a noble and beautiful mistress to whom we cannot but do homage. The artistic fashioner of character shows this ideality in the selection of those aspects of human nature which are most universal, most valuable, and most pleasurable to

witness, and also in the construction of such surroundings as will best call forth these qualities of mind.

We may view this selective process under two aspects. First of all, in the choice of individual characters as wholes, the artist will seek to exclude from his groups the common and uninteresting varieties of character, and to render prominent the more impressive and beautiful types. Secondly, after he has fixed upon a particular cast of character, he will wish to choose the best from among all conceivable circumstances and actions in which the character may unfold itself. With respect to the first mode of selection, it is evident that the pleasure of the spectacle will be greater in proportion to the quantity of æsthetic attraction in the character selected for representation. Fiction owes much to its capability of shutting out from view the dull and commonplace characters of our every-day society. In ordinary life but few of us are privileged to see men and women of impressive nobleness of disposition, of exquisite sensibility, or of ample humour. Yet, in the narrower circle to which the novelist introduces us, we rather expect to meet the most entertaining and admirable types of character. Fiction gains a further advantage from this facility of selection, namely, a certain effectiveness of grouping, that is to say, an arrangement of characters under the most impressive aspects of contrast and relief. Many a character known in real life fails to leave any deep impression because of a certain indistinctness of outline, or a want of strongly marked points of contrast with the society of which it forms a unit. Were it transplanted to another and widely different social environment, it might prove a striking object of contemplation. Now this want in the actual order of life the artist is able to make good by means of happy and striking juxtapositions. The nearer any two objects are placed to each other, the greater the probability of their diversity striking the mind of an observer; and hence we find that the best dramatists and novelists frequently paint their characters in sharp contrast to those of their nearest relatives and companions, or to persons likely to be associated with them in the reader's mind through similarity of age, etc.*

* Many striking effects of this antithesis are to be found in Shakspeare. I may select the contrast between Prince Henry and Henry Percy in *Henry IV.*, between Othello and Iago, Hamlet and Laertes, Cordelia and her sisters. Goethe makes a fine point of the contrast between the chivalrous Egmont and the prudent William of Orange, and between the sensitive poet Tasso and the resolute unemotional statesman Antonio. In fiction I may just refer to Miss Austen's *Pride and Prejudice* and *Sense and Sensibility*, which are professedl based on a contrast of mental disposition.

Similarly, an artist may introduce otherwise uninteresting and even repulsive types of character as points of balance and relief to the more attractive figures. The most delightful qualities in human nature would soon lose their charm if they presented themselves uniformly in all persons, and an ideal society in which everybody is equally amiable and praiseworthy will fail to convey a worthy artistic impression. The judicious use of the less pleasing forms of character—if free from all effect of violent repulsiveness, and in strict subordination to a total pleasurable effect—is one of the distinguishing attainments of the true artist.

The second kind of artistic selection in the construction of character, namely, that which has to do with the details of an individual figure, is still more important than the first. When, for example, a novelist has determined to illustrate a particular variety of temperament, there instantly occurs a number of questions as to the best mode of placing in prominent light the aspect of character fixed upon. There are two principal methods by which this prominence may be secured. The first is the method of Characterization, or the indication of a particular mode of disposition by appropriate actions; the second is that of Isolation, or the separation of the particular quality as far as possible from all other and confusing attributes.

To express briefly and unambiguously a certain peculiarity of character is by no means an easy attainment. It presupposes a careful observation and an accurate knowledge of all the many less obtrusive effects of temperament and ruling impulse, both on external behaviour, and on the order of internal ideas. In so far as the poet or novelist selects just such effects as are produced universally by the particular quality of mind, and produced by no other in precisely similar form, so far will his delineation, however sketchy and incomplete, be sharp in outline and distinct in form. Further, in order to compass this higher style of characterization, the author will need to employ a certain selectiveness with respect to the successive situations and circumstances of the person to be described. In daily life, the most charming and admirable moral qualities may remain latent for want of a fitting situation which would stimulate them into full activity. The artist supplies this deficiency by arranging surroundings fitted to call forth into striking and brilliant play the forces of character which he seeks to illustrate. Thus, for example, in the comedy of character, as distinguished from that of plot, a chief element of success is a happy co-ordination of events suitable to the required development of ludicrous traits of character.

The second artistic process by which a given moral quality may be rendered distinct and conspicuous, namely, by isolating it as far as possible from all other qualities likely to obscure it, has, if judiciously executed, a considerable value. We saw in the preceding essay that even in real life the prominence of one or two ruling elements in a character affords an observer a pleasurable impression of unity, while it gratifies the tendency of every variety of emotion to monopolize consciousness. These same impulses, intellectual and emotional, serve to give value to simplicity in fictitious character. In addition to this, it must be remembered that a certain one-sidedness of moral nature in fiction, by supplying the reader with one or two definite characteristics, is favourable to an easy recollection of the several names and, consequently, to a ready comprehension of the story.

Yet while this method of isolating ingredients of human nature has these advantages, it is not always a safe process. The danger which uniformly besets it is that of substituting abstract fragments of character for concrete wholes. When a particular member of an ideal group of persons invariably exhibits the same peculiarities of thought or feeling, behaves in precisely the same manner, and even uses the same forms of speech, he becomes, to a discerning observer, too mechanical, and loses the semblance of the varied and complex human structure.* This defect has been more than once attributed to many of the characters in Dickens's novels.† One may safely affirm that with respect to the principal figures of a drama or a story this abstract method of representation is artistically wrong. Where a character presents itself again and again under varying circumstances and in different moods, we reasonably expect to see the play of manifold moral forces. Amid the variegated scenes and during the long processes of a drama, and still more of a novel, we look not only for much of this alternate play of light and shade in individual feeling, but also for permanent changes of mental development. At the same time, one must concede that in the case of many of the side-figures of a story or drama this organic completeness of character is neither possible nor desirable. If in actual

* This defect has been well pointed out by Hurd in the discussion of the drama which he interweaves into his *Commentary on Horace*. Lessing quotes the whole passage in the ninety-second and ninety-third chapters of the *Dramaturgy*.

† Mr. Lewes has well illustrated this lack of concreteness in the creations of our popular novelist. See the *Fortnightly Review* for February, 1872.

life we meet with persons in relations so casual and fugitive as to afford us only one side of their character, which traits are permanently associated with their particular names, we may well be permitted to cultivate this fugitive kind of acquaintance in the world of fiction.

Indeed, it may be said that fiction has in this, as in all other matters, a certain degree of freedom in departing from the strict probabilities of life. Further, we are much more disposed to concede this licence to the poet or novelist when the whole impression of the piece is light and amusing. When we are charmed by the representation of a perfectly bright and gay disposition, we are much less sceptical as to the existence of the reality than when the ideal object is of a dark and more terrible character. This is only one example of a general law of emotional life, traceable in all strong and healthy minds.* Accordingly, one takes delight in the sketchy and often one-sided creations of Comedy, though they appear to lack every mental force which customarily counterbalances and modifies the predominant disposition. It is on these grounds that Charles Lamb seeks, half playfully, to defend the immoral comedy of the seventeenth century.

"Translated into real life," he says, "the characters of his (Congreve's) and his friend Wycherley's dramas are profligates and strumpets,—the business of their brief existence, the undivided pursuit of lawless gallantry. No other spring of action, or possible motive of conduct is recognized; principles which, universally acted upon, must reduce this frame of things to a chaos. But we do them wrong in so translating them. No such effects are produced in *their* world. When we are among them, we are amongst a chaotic people." †

However extravagant this may seem, nobody can well fail to detect the substratum of truth which underlies it. With similar arguments Gervinus meets the objection brought against Shakspeare's Beatrice (in *Much Ado about Nothing*), namely, that her love of fun and banter is unnatural, that is, unwomanly.

Another aspect of moral qualities in artistic construction closely connected with their isolation, is their Universality. In one sense, of course, all the products of art must be concrete. A dramatist no less than a novelist, clothes his characters with a measure of individuality by giving them "a local habitation and a name." They

* Its operation may be seen in the first directions of childish credulity. Young children, if healthy and robust, are apt to be tenacious in their acceptance of a pleasing story, whereas their earliest scepticism customarily shows itself with respect to gloomy and terrifying histories.

† *The Essays of Elia*; essay, *On the Artificial Comedy of the Last Century.*

are supposed to exist at a certain time and in a certain place, as well as to take part in a definite series of events. Hence they differ from the pseudo-individual sketches of Theophrastus, which are really descriptions, put into the form of a typical instance, of an indefinite number of individuals. Yet while all the characters of art are thus, in the first instance, concrete, they differ very much in the mode of their representative function. In contemplating, for example, the creations of the higher dramatists, ancient and modern, we recognize that they stand, so to speak, on a wide basis of humanity. Our attention is gently drawn aside from the single individuals *immediately* represented to large sections of mankind *mediately* represented. In contradistinction to these typical, representative characters, there are others which present themselves to our minds as solitary and individual phenomena. In observing these, our thought is not transported to the general and universal, but lingers amid the many ingredients, intellectual, emotional, and volitional, which make up the individual whole.

The grounds of this difference in our perceptions of imaginary character appear to be as follows. The individuality of a real character consists, apart from the determining features of time and place, in the number and proportions of its intellectual and moral ingredients and in their particular mode of combination. It is only when long and intimate acquaintance renders us familiar with these peculiarities of a character, that our idea of it grows distinctly concrete and individual. Any one of the single qualities discernible in a particular mind is something common to it and a vast number of other minds. Even the particular degree in which a certain impulse presents itself in an individual character, may be familiar through other instances. But the subtle and intricate combination of innumerable qualities, in which consists the whole moral personality, is never precisely the same in any two individuals. Hence, it is in the mode of grouping and adjusting the several ingredients of human nature that the artist must seek his first and principal basis of individuality. The other distinguishing element in individuality of character consists in the possession of some very rare quality, or rare degree of a familiar quality. It is obvious that any such trait serves to stamp a character, even on a slight observation of it, with a measure of individuality.

Each of these sources of individuality has an influence on our estimation of artistic character. In the first place, such a creation becomes highly concrete and individual when it exhibits a large

number of distinct aspects, expressing themselves in definite modes of speech, action, etc. Hence, in order to secure this concreteness the artist needs to present his ideal person in a large number of strongly-marked scenes. Where this process of individualization can be very fully carried out, as in the novel, the observer may receive a lasting impression of a distinct personality, scarcely less clear than that supplied by the real men and women of his acquaintance. A reader often eulogizes the verisimilitude of a good novel by saying, that he is certain of having met with the prototypes of the verbal creations which appear so natural and complete. In opposition to these full and individualized sketches, most of the characters of the modern novel seem to resemble old and faded portraits, in which the many individualizing touches have become obscure, leaving only a distant and incomplete semblance of a certain type of face. The dramatist, it is obvious, has not the same scope as the novelist for filling in the minute and distinguishing features of concrete character; and to this circumstance one may principally attribute the fact that dramatic characters, even when directly based on historical reality, appear more or less typical and representative. In the single and limited series of actions of a tragedy the persons represented betray only a few conspicuous traits; and hence, when we think of Œdipus or of Antigone, of Hamlet or of Lear, our conception is that of a few leading impulses or of a certain type of temperament. This is still more obvious in our conceptions of the characters pourtrayed in comedy. Whereas a tragic character commonly involves opposing impulses, a comic character is very frequently simply the embodiment of a single laughable quality. This is true, for example, of such constructions as the Parmeno and Thraso of Terence, and the Avare of Molière. Indeed the fact that in Roman comedy the names of the *dramatis personæ* indicated the quality of character represented, sufficiently illustrates the universal significance which belongs to the characters of comedy.*

A character, then, becomes concrete and individual, *cæteris paribus*, in proportion to its fulness of delineation. Yet even a fairly complete outline sometimes appears lacking in individuality. This happens when the qualities selected, as well as the degrees in which

* Lessing discusses the question, raised by Diderot and Hurd, respecting the universality of comic as opposed to tragic characters. See the following essay on his *Dramaturgy*.

they manifest themselves, are common or average phenomena of human nature. On the other hand, a very sketchy delineation of character may seem to have a strongly-marked individuality when the qualities emphasized are rare and, consequently, impressive. In this manner, for example, the ideal dimensions of a tragic passion stamp the subject of it with a certain lofty singularity, causing him to appear an isolated individual instance of large and general human qualities. Similarly, the novel developments through which a comical character is made to pass in the hands of a Molière sufficiently mark off the particular embodiment of the ludicrous quality from all other instances.

Both in the construction of complex and individual forms of character, and in the embodiment of a few universal human attributes in an ideal representative, the artist has ample range for his selective and creative function. Also each of these products of art yields its own specific pleasure. In the first case, the observer's mind dwells on the subtle intermingling of many organic elements, and derives an intellectual enjoyment from a nice distinction and estimation of these. In the second instance, the mind draws its gratification from an appreciation of the universal worth of the few attributes thus singled out and accented.

To the latter class of artistic creations belong what are commonly styled *ideal* characters. These consist of artistic creations in which the attributes or groups of attributes rendered prominent are either universal, as opposed to the variable and exceptional, or conformable to some moral or æsthetic standard of excellence. Enough has perhaps been said in the previous essay respecting the contrast between universal and accidental qualities of the human mind. Now the former, by reason of their greater value, lend themselves much more easily to an abstract and exaggerated mode of representation.* Thus, for example, such a permanent and constant emotion as a love of home is far more susceptible of ideal treatment than a variable and individual feeling like a love of solitude. Similarly, the qualities which appear most constantly in a particular class, forming its leading characteristics, are more susceptible than the less constant ones, of the artist's imaginative and ideal treatment. Further, as I have already remarked, an ideal of character may be determined, not by universality, but by æsthetic or moral

* M. Taine has illustrated this point very fully in his essay, *De l'Idéal dans l'Art.*

worth. Accordingly, the exaggeration of a noble or beneficent quality, whether by representing it in unwonted intensity, or by suppressing other qualities which usually limit and circumscribe its action, is much more willingly assented to by the reader than a similar elevation of any indifferent or displeasing feature of character. One is far more ready to pronounce a very bad character unnatural and abnormal than a very excellent one. According to a psychological principle already referred to, the mind is far less disposed to be sceptical when receiving a pleasurable, than when receiving a painful impression. Not only so, but the influence of culture serves to alter our conception of actual human nature, since the idea of what it ought to be, and tends to become, partially obscures the idea of what it actually is.

Such, then, seem to be the principal modifications which the exhibition of human character undergoes in the hands of the artist, who in part copies his ethereal figures from the men and women of actual life, and in part transmutes them according to an ideal standard of the most impressive, the most beautiful, and the most worthy. We may now consider the question how far the several æsthetic features of character are employable in the arts of poetry and romance. In order to answer this, it will be needful to look a little at the other ends which these varieties of art seek to compass. Character is but one, though a principal, source of interest among several that are employed by the drama and the novel. A drama which simply presented a group of striking characters would scarcely fulfil the highest design of the art. Now it is possible that these other requirements may serve to limit very considerably the capabilities of these arts in respect of the pourtrayal of character; and if so, a proper understanding of our subject will involve a consideration of the limits thus imposed.

The other great æsthetic aim of the drama and the novel, besides the ideal pourtraiture of human character, is the construction of an interesting and absorbing Story or Plot. The pleasure derivable from this source involves, however, different species of gratification, which it may be well to distinguish somewhat carefully.

The attraction of a plot, in its narrowest sense, is due, largely, to the play of intellect and of will in curiosity and imaginative anticipation. Any spectacle which involves great uncertainty of issue, however little value this issue may have in itself, may stimulate in a pleasurable manner the activities of attention and expectation. The highest degree of this gratification is obtained when the event

is neither too improbable and unexpected, nor too certain. In the former case, there may be a pleasurable shock of surprise, but the impulse to follow out the sequence of events is discouraged, and the mind is simply bewildered. On the other hand, if the issue appears too certain, there is no room for the excitement of suspense, and consequently the attention flags. Hence, the purest form of this pleasurable excitement is afforded by a set of circumstances which opens up a number of possible issues, though we have not knowledge enough to determine which is the most probable. Thus all spectacles of struggle between pretty equal forces, whether moral or physical, excite this feeling. In watching a twig moving down a stream amid a number of antagonistic eddies, and in viewing a great battle, the observer derives a like pleasure in trying to forecast a doubtful result, and in watching the gradual unfolding of a dimly-conjectured event.

It follows from this that the visible manifestation of human action is highly fitted to awaken this interest. Apart from any suggestions of personal advantage or disadvantage in its results, we are powerfully attracted by the spectacle of the gradual evolution of human conduct. The actions of men on their fellows present just that complexity of condition which is fitted to sustain a tense expectation. Even when we are fairly familiar with a person's character, we can never predict the precise course of action he may pursue under a totally new set of circumstances, nor can we fully trace out beforehand all the far-reaching results of a certain variety of conduct. Hence there is always a certain margin for surprise and for the excitement of imaginative conjecture in the most life-like representation of human action. Now this action is also the principal means of displaying character. Accordingly one might argue that the aims of character and of plot are perfectly harmonious.

But there is another fact which needs to be considered here. The sequence of events in a drama or romance which stimulates and chains the observer's attention, is the result partly of character and partly of situation or circumstances. It is evident that both are equally necessary as conditions of action; yet they do not always impress us in the same degree. For example, when a man acts dishonourably under an extraordinary pressure of temptation, we are inclined to overlook the co-operating moral force, and to call the action the product of necessity. In so far as the inner condition is a constant element of human nature which can always be counted upon, it is apt to be left

out of sight. It is only when the situation offers a variety of morally possible courses, from which different persons will choose differently, according to the cast of their intellectual and moral nature, that character stands forth as a distinct cause of action. Now it is obvious that according as a course of action involves something peculiar and exceptional in a person's surroundings, or springs, during an ordinary flow of events, out of some characteristic quality of his inner character, it will be probable and predictable in very unequal degrees. The sequence of external and physical processes is rarely a matter of precise prediction; and hence the dramas and stories which have frequent recourse to these agencies, while they supply an abundance of sensational shock, are wanting in the quieter intellectual interest here spoken of. Whether the chain of external events be the result of some exceptional natural phenomenon, as a storm, or of the interposition of a supernatural power—the action of a *deus ex machinâ*,—it does not supply the necessary data of imaginative anticipation.

When, on the other hand, the sequent phases of a story are due, not to something extraordinary in outer circumstances, but to irresistible forces of character, the mind of the reader or spectator will pretty certainly experience a vague presentiment of the final result. We naturally reason that when there is a very strong and deep-rooted impulse in a man's mind, it will find a favourable opportunity for developing itself in open action, though we feel incompetent to predict the precise form which this action may assume. Hence, a sustained interest in the evolution of an action or story is most powerfully promoted by those dramas and novels, in which the main determining conditions of the events are laid in the principal characters themselves. When a novelist affords us, in his hero's ruling impulses, dim forebodings of his future career, or when a dramatist indicates the presence of mighty forces of emotion and will which may readily break out in tragic splendour, we have the most favourable conditions of imaginative anticipation and of eager attention. It is commonly admitted that the drama of Shakspeare chiefly differs from that of the Greek poets in the fact that it rarely resorts to external accidents and to supernatural interferences, but affiliates the action to the fixed characters of the agents themselves. In reading one of this poet's works our curiosity and our impulse to anticipate are at once excited by those pregnant suggestions of character with which, as we have seen, he is wont to open his drama. For example, do we not seem to experience the

most impressive mode of tragic fear when we overhear Macbeth's impetuous ambition beginning to utter itself in muffled, murmuring tones? A long vista of grand and stirring possibilities appears at this moment to open up indistinctly to our view, and henceforth we follow the course of events with a deep unquenchable interest.

Further, the fact that there is this special attraction in complicated yet dimly foreseeable human conduct, leads the artist to seek the outer and determining circumstances of a person's life in the actions of others, whether of his friends, of his enemies, or of unknown fellow-citizens. It is evident that every member of society, by his mode of conduct, appreciably influences the outer life-conditions of his connections. It is obvious, too, that this collision and mutual modification of distinct individualities supplies a still more intricate and exciting problem than the play of conflicting impulses in a single character. Hence we find that both the dramatist and the novelist awaken the deepest interest when they seek to derive the successive stages of their story from the complicated actions and reactions of the men and women who are associated in it.

I do not mean by these observations that a certain subordinate use of the unforeseeable and the accidental is never allowable in art. On the contrary, as I have already hinted, this quality of story yields its own peculiar gratification, namely, the pleasurable excitement of surprise, though this can scarcely be compared with the refined and prolonged enjoyment which is afforded by the natural evolution of character. It does not belong to my present purpose to determine the limits of this use of the surprising. It may be remarked, however, that the accidental in external events, just like the rare and exceptional in moral processes, can be employed more freely in compositions of a light and gay tone, such as comedy and the novel of manners, than in more serious fiction. Under the gladdening influence of such a bright and sparkling ideal world, the mind is but little disposed to sceptical criticism and to a careful rejection of the improbable.

Thus far we have spoken of the interest of story or fictitious narrative as determined simply by the degree of its *uncertainty*. But the complicated evolutions of human action are not merely an exciting intellectual problem. They affect us by their affinity to our own conscious experiences, as well as by their remote relations to our happiness and misery. We will now inquire into the aspects of human life which thus serve to chain our attention to individual development, while we seek to determine the elements of character fitted to sustain this prolonged interest.

The simplest ingredient in this sustained interest in personality is the tendency to expect a recurrence of like impressions. When an amusing person has been introduced to our notice, and has afforded us ample delight, in his odd vagaries or funny *jeux d'esprit*, we are disposed, from a very child-like habit of mind, to anticipate a renewal of the pleasure. The re-appearance of the character instantly awakens our curiosity and keeps us in a state of tiptoe expectation. In this way, then, delightful types of character serve to attract a special activity of attention and of anticipation, by reason of which all the developments of the person's life become objects of interest.

A very similar effect is produced by a type of character which impresses us with the curious feeling of awe and incipient terror. As we saw in the last chapter, evil natures, of great power, and having opportunities of mischief, stir, in a beholder's mind vague anticipations of tragic disaster, which if not too distinct, are of a pleasurable and stimulating character. When the presence of such a nature has made itself felt to us, it begins to exercise a fascinating influence on our attention. With something of the mental tension and emotional excitement with which we watch the play of lightning, when it is too far to threaten us with immediate injury, we follow all the movements of a dangerous and volcanic nature, in whose impenetrable recesses lie such terrible possibilities of evil. Accordingly, such characters are fitted to awaken an intense degree of that interest in personality, on which the value of dramatic action and of poetic narrative so largely depends.

The mental activities just considered serve to keep up an interested attention in a person's doings. We have now to notice other forms of impression which not only sustain a powerful measure of this intellectual activity, but also induce a certain *order* of wish and of expectation respecting the person contemplated. One of the most important of these influences is that of the Retaliative impulse already spoken of. When a character awakens strong dislike or moral antipathy, this feeling purges itself of its painful effect by force of a vindictive impulse. Even the contemplation of a fictitious person of an odious character is accompanied by a strong pulsation of animosity and malevolent desire. And the play of this impulse serves to invest the person who has called it forth with a strange interest. We watch his career just as though we had a deep personal concern in his fate, and derive a feeling of relief and satisfaction from the discovery of his destruction or humiliation. In this way an emotional impulse, passing into the

quieter form of a permanent desire, serves to sustain a prolonged interest in the unfoldings of a human life.

Let us now turn to another and more pleasing case of this influence of the feelings on our anticipations and our percipient activities. I refer to the action of the Sympathetic impulses. The disposition of the mind to share in the gladness and grief which it happens to witness has been sufficiently discussed in the past essay. This impulse supplies a considerable part of the interest to the imaginary experiences which unfold themselves in the drama and the novel. Although there is a natural disposition to enter into any experience of suffering or delight which presents itself in another, a person does not bestow his sympathies equally on all. Some types of character, fictitious as well as real, are fitted to attract a constant and deep sympathetic interest. Such persons are taken, so to speak, into the circle of our own friends and belongings, so that their joys and sorrows seem to be vibrating movements in the outer regions of our own sentient life.

It is this powerful concentration of sympathetic interest on certain individuals, which gives so much of the fascinating influence to a good life-story. Under the influence of these sympathetic activities, the observer watches the progress of an imaginary person with something of the earnest solicitude which a real affection calls forth. He anticipates for his chosen characters bright and serene experiences, proud triumph, and glorious success, much in the same way as a parent or devoted friend builds airy castles for the object of his love. In this way the mind is stimulated to keep its regards fixed on a definite personality: and this activity must be reckoned one of the deepest springs of the interest which belongs to a drama or to a novel. No doubt, a sorrow may grow into such vast and tragic proportions, as to move the spectator's soul quite independently of this personal attachment. But, for the most part, the dramatist and the novelist have to draw out our sympathies by first attracting our regards to the object to be sympathized with. Even the tragic poet who seeks to thrill our minds by the spectacle of a huge calamity and a sea of human woe, does not refrain from first rendering the subject of these experiences an impressive and attractive character.

The aspects of character which are fitted to attract this special force of sympathetic consideration, are those which, being in themselves impressive, are unaccompanied by any suggestions unfavorable to sympathy. For one must remember not only that there are feel-

ings directly antagonistic to this sentiment, but that the play of the impulse may be checked by a variety of considerations, such as that the person whose joy or suffering we are watching is too proud and self-reliant to need our fellow-feeling. When all such counteracting forces are wanting, any deeply impressive trait of character, by attracting a special energy of attention, predisposes us to follow sympathetically the person's career.

The highest degree of this sympathetic interest is awakened by those qualities which afford an appreciable *delight* to the observer. Whenever a person's character supplies a highly pleasurable impression, we experience faint pulsations of affection for the object; and it is through the play of this sentiment that the most devoted sympathy is called into activity. Whether the person contemplated inspires us with a glow of admiration, whether he awakens a more tender sentiment of affection, or whether he charms us with many touches of the ludicrous and the humorous, the pure delight which the contemplation brings with it serves to attach us to the character by strong personal bonds. Hence it is the noble and the beautiful, the amiable and the graceful, and the laughter-provoking persons of the drama and of the novel, whose lives interest us most profoundly. Who would follow with so intent a mind the tortuous windings of Romola's sad life, but for the charm of her gentle and beautiful nature? and who does not feel in reading *King Lear* that the fool owes something of the pity we give him to his grateful pleasantries and his quaint comicalities?

It may be worth while to note the mutual influences of the distinct interests which grow out of the æsthetic appreciation of character and out of sympathy. Not only does a pleasing character naturally draw to itself a sustained sympathetic attention, but the outgoings of sympathy become the source of a new sentiment for character. I have already spoken of the æsthetic attraction which belongs to the bright and joyous temperament, and which is based on the observer's sympathetic participation in the happiness revealed. To this fact may be added another, namely, that even sympathy with another's sorrow frequently becomes the basis of a tender regard. The pulsations of pity which the sight of another's grief awakens in a sensitive mind, are in themselves the germ of an abiding interest. We are prone to set value on the object which has in this way become identified with our own sorrow. And it is this accompaniment of tender emotion which blunts the edge of sympathetic pain, rendering the spectacle of another's grief so strangely

sweet in its bitterness.* Thus, the impulse of sympathy, and the desire for the beautiful and the amiable, serve to react on one another, intensifying and sustaining one another. Every one who has reflected on his feelings is aware how inextricably the two currents of emotion alternate and mingle in the whole impression of a worthy drama or novel.

An important result of this action of sympathy may be found in the admitted need of a certain kind of Conclusion to a drama or a novel. Through the play of sympathy and of antipathy, we anticipate and desire the final happiness of pleasing and admirable persons, and the misery or humiliation of wicked and despicable natures. This fact of our emotional nature cannot be ignored either by the dramatic poet or by the novelist. His difficulty lies, of course, in providing this satisfaction consistently with the demands of truth and probability. The requirements of verisimilitude, when they can be defined, are one main controlling influence in art, as may be illustrated in the catastrophe of the modern tragedy, which, though in itself painful, is accepted as a truthful representation of life. At the same time the influence of poetic or emotional justice may be recognized even here, since, as Aristotle long ago taught, the ultimate suffering of the innocent, though undoubtedly true to life and more than once to be found in Shakspeare, is but little suited for tragic spectacle. In comedy and the lighter species of fiction, where truth to nature, as I have remarked, is less severely insisted on, we find ample room for the indulgence of these emotional anticipations. Here we may see meanness chastised, and honourable fidelity crowned with admiring recognition. It is worth noting, too, that the activities of our sympathetic and antipathetic feelings are apt to exert an appreciable though unobtrusive influence on our estimate of what is *probable* in the course of human events. For example, although a quiet observation of actual life certainly teaches us that the unworthy frequently prosper, people are very apt to judge of the probability of a fictitious story as if it were a universal law that wrong-doing ends in misery and shame. That is to say, they erect an emotional standard of truth into the place of a logical.

Now that we have examined the relations of the æsthetic interests of character to those of story or plot, and to those which correspond

* Mr. Spencer very ingeniously connects this "luxury of pity" which he thinks is afforded by all helpless objects, with the parental instinct. *Principles of Psychology*, Vol. II., p. 622, *et seq.*

to our sympathy and antipathy, it ought not to be difficult to assign approximately the style of character suitable to the several species of drama and of fiction. In addition to the gratifications already discussed, each variety of these arts aims at supplying the delight of Harmony; and it has long been recognized that this requirement helps to determine the form of the characters and actions represented. Keeping these several æsthetic laws in view, let us inquire into the precise manner in which the several types of human character enter into tragedy, comedy, and romance.

It appears to have been recognized, since the famous definition of Aristotle, that the Drama aims at pourtraying an interesting and impressive Action. Hence the order of characters best fitted for dramatic representation may be described as active and vigorous natures, whose restless impulses prompt them incessantly to new plans and undertakings. The more quiet and passive order of character plays a subordinate part as the *object* of dramatic action, often furnishing a directing stimulus to the active propensities of the more eager natures.

Coming now to the more special subject of Tragedy, we find that the nature of the total impression aimed at serves very considerably to limit the characters introduced. Since the dominant effect of tragedy is an earnest and elevated mental tone, it is obvious that the characters represented must, for the most part, be great and awe-inspiring. How far lighter and even amusing aspects of human nature may be admitted in tragedy as subordinate elements of relief, is a question which different persons will answer differently according to their peculiar temperament. Further, the need of an action highly stimulative of sympathetic fear and pathetic tenderness serves, as Aristotle well showed, to determine approximately the most tragic type of character as one which is neither perfectly innocent, so as to inspire the horror of a martyrdom, nor utterly wicked, so as to chill all warmer interest, awakening simply a feeling of abhorrence. Again, the plot of tragedy, leading up to a grand and stirring catastrophe, has to be developed, to a large extent, out of the forces latent in the principal characters. Hence, the most fitting characters for tragic effect are those in which there is an unstable equilibrium of moral forces, great and worthy qualities being menaced so to speak, by undeveloped impulses of evil.

Tragedy, then, requires before all other things a wide scope for destructive action, and vast forces of good and evil concentrated in a single individual. It is probable that our modern society offers but

little material for the deep-moving narratives of a Euripides or of a Shakspeare. The present conditions of social life do not often supply an arena for that vast and imposing collision of individual forces on which the finest tragic effect seems to depend. At the same time, this change in the structure of social life is attended with a change in the ideas of naturalness; and it is not, perhaps, too much to say that the majority of refined persons to-day are disposed to see in the harrowing catastrophes of Shakspeare's plays, quite as much of the abnormal and inhuman as of the life-like.

One result of these transformations in our moral ideas has been the development of a new species of drama, which, without aiming at a gigantic ruin of interests, seeks to retain something of the solemn splendour of the ancient tragedy. This variety of drama assumes a prominent place in German literature. As examples of it I may cite Lessing's *Nathan der Weise* and Goethe's *Tasso*. The special interest of this literature for our present consideration lies in the fact that it places increased emphasis on dialogue, and on the revelations of the less turbulent regions of human feeling. Any one who has seen the part of Nathan intelligently rendered will scarcely doubt that the fine divulgence by histrionic art of the many activities of thought and feeling which make up the hidden foundations of a character, is fitted to supply a considerable dramatic interest. Nevertheless, it may be doubted whether a play will ever produce an adequate dramatic effect from this source alone. It may be supposed that the spell-dissolving accompaniments of the stage are too obtrusive, in the view of our critical generation, to allow of a profound impression from a representation which does not seek to stimulate the intense interest of a stirring action or of a complicated plot; and this critical dissolution of æsthetic impression is especially easy when the dramatic utterance has a highly pathetic colouring. I confess that some of Schiller's most beautiful utterances of internal sentiment, when heard in the theatre, are apt to appear to the cooler English temperament, a little too warmly tinted, and fail to produce an appropriately serious impression. Hence this character-drama seems to be best fitted for the quieter appreciation of private perusal. How finely dramatic speech may convey the swiftly-changing tints of the inner life of emotion and thought, is fully illustrated in the works of Mr. Browning.

The several species of Comedy, like those of tragedy, are somewhat restricted in the employment of character by their distinctive aims. The object of comedy is the production of a cheerful and hilarious

mood, by means of a light and amusing spectacle. Accordingly, it has little room for the more earnest and imposing types of character. Further, since comedy aims at a style of action which is amusing and laughter-provoking, its best characters are, first of all, those who possess some ludicrous quality susceptible of an effective exposure, and secondly, those who combine a fund of humour with a certain cleverness and skill, by virtue of which they are able to act on the ludicrous subject, now alluring him into a chain of absurdities, now entangling him in imaginary disasters in order eventually to undeceive him, and now foiling and gently punishing him for unseemly defect or excess.

The gratification both of the sympathetic and of the antipathetic impulse is much more restricted in comedy than in tragedy. A momentary fear, may, no doubt, be accepted for the sake of a speedy relief; and Shakspeare has shown, in such pieces as *The Merchant of Venice* and *As you like it*, how to compass a highly gladsome effect through an action which opens with a seemingly gloomy and threatening situation. The moderate punishment of all petty unworthiness of character affords, as we have seen, one mode of the pleasure of laughter. Even so complete a discomfiture as is involved in the humiliation of Shylock, may, under certain circumstances, sustain the merry and hilarious character of the whole effect.*

Since the peculiar pleasure of laughter may result either from the perception of a ludicrous quality of character, or from the sight of a moderate and painless discomfiture of an undeserving person, the sources of hilarity in comedy will be found either in the characters or in the intrigue or plot. When the laughter is afforded by a series of complicated knots and their solution, we have the Comedy of Intrigue, of which our own literature, both of the Elizabethan period and of the Restoration, affords abundant examples. With respect to the verisimilitude of the action in such plays, it has already been remarked that the mind is especially disposed to suspend calculation of probabilities, and to give itself up to the wild suggestions of imagination, when enticed into merriment of mood.† A signal instance

* This has been questioned by some critics, who see in the overthrow of a scouted Israelite, rather a pathetic, or even a tragic, than a comic event. Yet Gervinus has done much to demonstrate the poet's perfect justness of sentiment in this instance.

† It is possible that this rejection of fact is sometimes a conscious process, and that one experiences a pleasurable feeling of liberty—which is highly conducive to laughter—in thus playfully defying at the moment the stern necessities of natural law.

of this propensity is to be found in the comedy of Aristophanes, which not only exaggerates human folly and vanity into huge proportions, but ignores in the most daring manner the commonest physical laws. A trace of the same tendency may be detected in the delight with which we accept such combinations of fancy and humour as are to be found in the mythical comedy of Shakspeare, as for example, in the *Tempest* and the *Midsummer Night's Dream*.

In the Comedy of Character, on the other hand, which is best illustrated perhaps in the works of Molière, the artistic stress is laid on the minute and accurate delineation of subtle and deep-hidden human weaknesses. Hence it is this species which offers the widest field for the evolution of the forces of character. The poet who seeks to produce the main effect of his art through an exposure of human infirmities and petty blemishes, illustrates all the processes of artistic reproduction and transformation which have been so fully described above. His artistic activity finds ample scope in a selection of the most ludicrous aspects of character, in an accurate and striking pourtrayal of their characteristic effects on speech, manners, and conduct, and in a combination of circumstances, including the person's companions and society, best fitted to throw on these qualities of character a clear and brilliant light. So ample and varied is the entertainment thus provided, that a play which lacks nearly all the interest of plot may still be an effective stage-spectacle; and this is probably the single instance in which dramatic representation affords an adequate gratification by the mere exhibition of character.

Yet though the drama possesses so large a scope for the representation of character, it is greatly inferior in this respect to a newer form of artistic creation, namely, the Novel. The advantages which this form of literary art possesses, are very obvious. First of all, since it discloses its objects through an immaterial and ideal medium, it is not amenable to the limitations which circumscribe a visible play. In this particular it corresponds, in some measure, to the ancient epic, which it further resembles in the extent and scope of its representations. For this reason it does not need unity of action, but finds a sufficient artistic nexus in the enduring interest of *personality*. Whereas the drama has to confine itself to a single brief chain of events in human life, the novel may embrace all the interesting phases of a life. By these means it is capable of exhibiting not only a far greater *quantity* of character, but also a wider diversity of *quality*. Instead of beholding a single brief flash of inner impulse, or a few momentary phases of a human mind, one may witness in this

region of æsthetic creation the gradual development of a character as an organic whole, and the successive transformations which it undergoes with physical growth, and with the accumulated effects of experience. Indeed, this progressive aspect of human nature seems to be the exclusive possession of the novelist; and no one can fail to recognize what an enlarged area it supplies for psychological insight and representation, and for the harmonious adaptation of the inner to the outer.

Once more, the descent of Romance from the region of wild adventure and epic grandeur to the quiet plains of our common social and domestic life, appears to have involved a great advance in the pourtrayal of character. A romantic story which stirs a feverish interest by its remote adventure, its thrilling perils, and its unfamiliar scenes, can readily dispense with the attraction of a charming or imposing personality. The reader tends instinctively to realize in imagination the exciting experiences, without inquiring with whom he is thus taking part. But in following the quieter events of daily life we need some further stimulus for our sympathetic interest. And this stimulus has to be supplied, as we have already seen, in some engaging or impressive traits of individual character. The successive unfoldings even of a very common life may become deeply impressive, when the character is of a sort to attract a high degree of this personal interest. Every human existence has a certain degree of complexity and mystery, by virtue of which it is fitted to afford something of the intellectual gratification of plot and intrigue, if only our attention can be pleasingly attracted and detained. One may say, then, that in the novel the exhibition of attractive character is not only a prime end, but also a chief means to another end, namely, the gratification of those sympathetic impulses out of which springs a permanent interest in the evolution of a human life. Hence those writers of the sensational school who seek to interest their readers simply by unexpected incidents, and thrilling situations, are really overlooking the highest capabilities of their art.

It is unnecessary to enumerate all the peculiarities which distinguish the art of the novelist from that of the dramatist. One point of difference is sufficiently clear: the greater fulness and concreteness of the delineation, and the greater resemblance of the form to that of historical narrative, serve alike to impose on the novelist a more stringent rule of conformity to nature. As it has often been remarked, a rare and exceptional sequence of events is apt to appear impossible in fiction, though the supposed disparity seems less harsh

when the result satisfies some emotional demand. These same considerations account, too, for the fact that one naturally looks for a measure of variety both in the characters and in the lives of a novel. As a large transcript of life, a fictitious story is apt to appear unnatural when its characters are uniformly good or bad. Hence, the critical objection to much of the French school of fiction as well as to the rigidly moral variety of the English novel. Hence, too, the difficulty in producing in a novel the perfectly harmonious impression of a tragedy or of a comedy.

It is not my present purpose to seek to determine the final value of the novel, as a work of art, but merely to estimate its powers of representing human character. Much has been said in disparagement of this species of artistic production, and grave German æstheticians have hesitated in admitting it into the gallery of recognized Art.* No doubt it possesses less beauty of form than a drama or a lyric poem, and less of scenic grandeur and imaginative beauty than the antique epos. Yet when one sees in the works of writers like Goethe and Thackeray, Balzac and George Eliot, what a vast scope prose-fiction possesses for disclosing the deep and subtle elements of individual character, the complicated actions and reactions of social life, the varying phases of nature and their effects on human emotion, and finally the conflict, half tragic, half comic, in its aspect, which underlies every human life, one is disposed to rank it, young though it still is, very high in the hierarchy of delightful and instructive artistic creations.

However this be, it seems sufficiently certain that the novel, as the latest development of the arts which embody character, corresponds to those deeper, wider, and more subtle intuitions of human nature, which, as we saw in the preceding essay, modern culture, together with the forms of advanced social life, has rendered possible. Whatever its whole æsthetic value may be, it clearly claims the highest dignity which belongs to the distinct and faithful pourtrayal of human feeling and action.

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* At the same time a high rank has been accorded the Novel by certain German writers, among others by Weisse and Vischer. Lotze has a very interesting passage on the æsthetic function of this form of art. See his *Geschichte der Æsthetik in Deutschland*, p. 636, *et seq.*

# LESSING'S HAMBURG DRAMATURGY.

LESSING is, perhaps, still too unfamiliar a name to English readers, in spite of reminders, by Mr. Carlyle and others, of its many claims on our attention. And of all Lessing's works none seems to have received a more scanty recognition from English writers than the *Hamburg Dramaturgy*. Yet, while a fragment, and devoid of systematic form, it is little if anything inferior to the *Laokoon* as a searching analysis of the principles of Art, while its history posesses quite as much biographical interest as that of *Nathan der Weise*. More than this, as a clear and masterly revelation of the powers of the drama at its best, and of the loss people unknowingly incur who accept its feebler and corrupted forms, this work is likely to preserve a lasting didactic value. At least it can hardly be looked on as obsolete in the England of to-day, where it is all but impossible to hear its greatest dramatic genius, and where the theatre is abandoned to those who thirst for some new horror, and are ready to gape in impotent wonder at every cumbrous mechanical device for representing the unrepresentable.

A very few words will serve to explain the genesis of this work. Lessing was thirty-seven years old, with an established reputation in literature, when, in 1766, he was invited to undertake the post of dramaturgist, or dramatic critic, for a new national theatre in Hamburg. A band of writers and actors, aided by the purses of a few opulent merchants, had conceived the project of founding this theatre as a school for the cultivation of a healthier taste in the public, and for the encouragement of a higher style of national dramatic literature. The services of the now famous author of the *Laokoon* and *Minna von Barnhelm* were unanimously desired as a factor in this ambitious scheme; and Lessing, whose literary merit had hitherto failed to secure him any remunerative position, was only too ready to accept a stipend in connection with an enterprise so entirely after his own heart. Although he declined to engage himself for the regular production of dramatic pieces, he consented to act as critical reviewer of the successive representations. These notices were afterwards collected into two volumes under the name, *Hamburgische Dramaturgie*.

It is unnecessary here to trace the history of the theatrical undertaking in all its steps. As all cynical on-lookers no doubt predicted, the project failed, just as a similar attempt at Weimar some years later is known to have failed, through the absence of the most essential element of all, the appreciative public. Other causes certainly co-operated, such as the influence of Klotz and the other leaders of conventional opinion, and the suspicious and hostile attitude towards the play still maintained by the clergy. But Lessing's own words at the close of the *Dramaturgy* leave us in no doubt that the indifference and actual opposition of the Hamburg public itself was the main cause of the untimely collapse of the undertaking. "Oh the amiable wish," he exclaims, "to ground a German national theatre, when we Germans are no nation! I speak not of political constitution, but simply of moral character." "The sweet dream," he adds further on, "to establish here in Hamburg a national theatre has again vanished; and, so far as I have become acquainted with the city, it is probably the very last place in which such a dream could attain its fulfilment." So little promise of success attended the early steps of the enterprise, that within nine months of its inauguration the Hamburg theatre closed its doors, and the actors removed to Hanover.

Through this event the literary plans of Lessing were completely frustrated. Not even the whole of the pieces produced at the theatre during this brief period received his criticism. The two volumes of the *Dramaturgy* contain only a review of the plays performed during the first fifty-two evenings. The reason of this was, as Lessing distinctly tells us, the shameful practice of piracy then carried on by German publishers and printers, a practice from which Goethe had to smart later on. But if the number of critiques is disappointingly small, the fulness and variety of their contents render them a treasure-house of dramatic principles and illustrations. Not only does the author seek to determine the æsthetic value of the productions reviewed by a reference both to ancient and to modern authorities, he frequently gives us a full account of the genesis of the work, with an inquiry into its historical data. More than this, he explores the literature of many ages and tongues in order to compare various dramatic versions of the same subject. Thus, in one place we have a pretty extensive commentary on a passage in Aristotle's *Poetics;* in another, an elaborate reply to an authoritative French criticism, or an interesting fragment of history from Hume and Robertson. In one instance the author gives us a

lengthy account of a Spanish play, which was to German readers a revelation of an unknown field of literature. And with all the graver passages, lighter entertainment is not wanting. Vivid descriptions of the actors' performances relieve the more philosophical discussions, while the long and more obscure polemical passages are brightened again and again by the play of a graceful irony and of a delicate humour.

The criticisms on the acting which form so delightful an ingredient of the first sections of the *Dramaturgy* were soon discontinued. Although, in one or two of the company—Eckhof before all others—Lessing appears to have found collaborateurs not unworthy of their connection, the majority of the players were incapable of entering into his lofty aims. At the same time, it must not be supposed that Lessing's views were impracticable. He tells us in one place that one must not expect too much from actors, but be contented if, out four or five, some play excellently, and the rest well. He seems to have reposed in his fellow-workers a confidence of which they were hardly worthy. Thus he gracefully writes: "I know only one mode of flattering an artist, whether of my own or of the opposite sex; and this consists in presupposing that he is above all vain sensibility, that art with him is everything, and that he wishes to be criticised, preferring even to be falsely judged than not to be judged at all." Yet in spite of this trust, the actors and actresses were anything but satisfied with Lessing's remarks. One lady felt herself aggrieved because the critic had discovered in her the single fault of being "too great for her part." These petty intrusions of personal feeling soon silenced Lessing's utterances on this branch of the subject. Yet he seeks, even here, with a delicate courtesy to hide the failings of his fellow-artists. In his closing remarks he points out the want of any clear and precise histrionic rules to which the critic may appeal; and adds: "Hence it follows that all argument on the subject appears so vague and ambiguous, that it is really no wonder if the actor, who has nothing but a happy knack to guide him, feels himself injured in every possible manner."

It may be we shall hardly be disposed to condone so readily a petty irritability which cut short the series of masterly touches disclosed in the earlier critiques. These observations, though so brief, are the foundation of a true histrionic science. As an excellent example of keen critical insight, I may quote from the second paper some remarks on the appropriate mode of uttering a moral truth. After enlarging on the reciprocal influence of feeling and

muscular expression in general, the writer thus applies his principles to the particular case of moral maxims:—

"Every moral truth is a universal proposition, which, as such, requires a degree of mental composure and of quiet reflectiveness. It should, accordingly, be delivered with deliberateness and a certain coldness of manner. But this universal proposition is at the same time the result of impressions which individual circumstances make on the person acting. It is no mere symbolic conclusion, it is a generalized feeling, and as such, must be given with fire and a certain inspiration. Accordingly, with inspiration and composure, with fire and coldness? Not otherwise; with a combination of both, in which, however, now this, now that, becomes conspicuous according to the nature of the situation. If the situation is quiet, the mind should seem to supply itself, through the moral truth, with a new impetus: it should appear to make general remarks on its happiness or on its duties, simply for the purpose of enjoying this happiness more eagerly, or of observing these duties more willingly, through the fact of that universality. Should the situation, on the contrary, be an agitating one, the mind of the speaker must appear, by means of the moral reflection, to recover itself from its flight. It should seem to be desirous of giving to its passions the appearance of reason, to stormy exclamations the aspect of deliberate conclusions."

Lessing then goes on to tell us that most actors exactly reverse this rule, more especially in the gestures with which they accompany moral utterances. This is made the occasion for an interesting review of the classic and modern usages with respect to the employment of the hand, in which he condemns the contemporary practice as an excessive use of manual gesture. He then proceeds to indicate the movements appropriate to moral utterances:—

"Every movement which the hand makes during the recital of a moral passage must be *significant*. One may in this way often rise to the picturesque, if only one avoids the pantomimic. . . . There is one kind of movement which the actor must observe before all others, namely, the *individualizing* gesture. A moral truth is a universal proposition, drawn from the special circumstances of the persons represented. Through its universality it becomes, in a certain degree, heterogeneous with the matter in hand. It forms a digression, whose relation to the present moment is not noticed or conceived by the less acute hearer."

And this relation, he adds, may be made clear by appropriate gestures. For example, a truth uttered in warning must be accompanied with the emphatic gestures of warning. Similarly, an acknowledgment of human weakness, derived from the speaker's self-observation, requires the feeble tone and the shrinking attitude with which we are wont to confess our own weakness, while the hands should move towards the breast, in order to show that the truth is drawn from the speaker's individual experience. Equally

striking are some observations which follow on warmth of manner. Taking as his text Hamlet's instructions to the players, Lessing shows how it is possible for an actor to become too vehement. He points out the painful element in every excessive vocal strain, and following out the line of inquiry so brilliantly exhibited in the *Laokoon*, seeks to determine the precise relations of the histrionic art to its sister arts.

"The art of the actor stands (in respect to the admissibility of the vehement) midway between Poetry and the arts of Painting and Sculpture. As a *visible* picture, it must make beauty its highest law; yet as a *transient* picture, it does not always need to give its postures that repose which renders antique works of art so imposing. It dares, it must, allow itself the violence of a Tempesta, the insolence of a Bernini. Such effects retain in this art all the expression that is peculiar to them, without having the painful aspect which they receive in pictorial art, through the permanence of the impression. Only it must not linger too long amid these effects. It must gradually prepare us for them by the preceding movements, and by the succeeding ones must resolve them back again into the ruling tone of the decent and the orderly. It must never seek to give to these effects all the intensity for which the poet, in his treatment of the subject, necessarily leaves room. For though the art is indeed a dumb poetry, at the same time it makes itself intelligible first of all to the eye; and every sense likes to be flattered if it is to hand over unfalsified the conceptions which it has to transmit to the mind."

It is commonly supposed that Lessing was deficient in musical feeling; and probably his nature was too severely intellectual, too little indulgent of the emotions, to allow of his entering into all the mysterious depths of musical sentiment. Yet the intellectual side of Music, its relation to articulation and to the expression of ideas, could not escape his finely penetrative mind. In the eighth paper, we light on a few very lucid observations respecting the proper variations of speed in vocal utterance, and the effects of such changes in combination with alternation of pitch of tone, intensity, etc. A far more striking illustration of Lessing's acute critical sagacity, as applied to this comparatively foreign subject, may be found in the twenty-sixth and twenty-seventh critiques. He here discusses the subject of Orchestral Accompaniment, or the relation of Dramatic Music to the various kinds of passion represented. His accurate knowledge of musical form, and his penetrating insight into the effects of musical art are here equally remarkable; and in this instance, too, his fertile method of eliciting the peculiar ends of a given art by discriminating it from the most nearly allied companion arts, comes prominently into view. In reference to the question, whether the *entr'acte* should form by means of two con-

trasted movements a vehicle of transition from the sentiment of the preceding to that of the succeeding act, he thus writes:—

"On the supposition that the passions which are dominant in two successive acts were directly contrasted, the two distinct musical movements would necessarily be of the same contrasted character. Now I can conceive easily enough how the poet succeeds in bringing us from any one emotion to its opposite without a violent shock, namely, by a gradual rise and fall of intensity. But can the musical composer effect this also? It may be that he can, in a single piece, of the requisite length; but in two sharply divided passages the leap—for example, from the restful to the stormy, from the tender to the raging—must be too noticeable, and must be accompanied by all the disagreeableness which attends every too sudden transition of mental state. Now, we dissolve in melancholy, and all of a sudden we must grow furious. How? Why? Against whom? All this, music is unable to determine for us. We feel without perceiving a correct sequence in our feelings. We feel as in a dream, and all these disorderly sensations are more prostrating than exalting. Poetry, on the contrary, never allows us to lose the thread of our emotions. Here we know not only what we are to feel, but also why we are to feel it; and it is this 'why' which renders these sudden transitions not only tolerable but even agreeable. In fact, this power of rendering sudden transitions intelligible is one of the greatest advantages which music derives from its union with poetry, yes, perhaps, the very greatest. For it is far less needful to limit by words the general indeterminate feelings of music, for example, the sentiment of joy, to one single object—for those obscure and wavering feelings are not unpleasant—than to connect divergent and contradictory feelings by clear ideas, which only words can supply, so as to form a harmonious whole."

No one can fail to see the intellectual penetration betrayed in this passage. The inability of music alone to effect a transition of emotion, if it be established, certainly demonstrates, as Lessing says, the need of uniting to it the interpreting and articulate voice of poetry. But one may well ask whether Lessing's opinion on this point is a valid and objective one, or whether it arises from subjective peculiarities. It is probable that most minds, when under the influence of music, are in a condition too purely emotional to be troubled by such intellectual difficulties as might occur to Lessing. Whether this be so or not, one may argue that the critic's objection to a transition of feeling as caused by music, if a valid one, really applies to every emotional effect of music. A man who needs to understand the reason of an emotional transition, will also, one supposes, need to understand the reason of the vague emotional result of a single phase of music. And persons of this temperament would obviously be insusceptible of an integral element in the enjoyment of instrumental music. Finally, as I have sought to show in a previous essay, even great changes of emotional condition, as effected, for example, by a transition from an *adagio* to an *allegretto*,

correspond to certain spontaneous sequences in our natural emotional life, and need not, therefore, be attended with that sense of confusion of which the writer here speaks. It may be presumed that Lessing's nature was too severely intellectual and too little indulgent of the emotional and subjective, to appreciate this side of musical art.

But we must leave the subject of theatrical representation, and turn to the more important theme of Dramatic Literature. In order to appreciate the aim of Lessing's criticisms on the German drama of his day, one must clearly understand its character and its relation to the foreign drama. For the most part, the productions of German dramatists were feeble imitations of French works; and even these constituted but a meagre supplement to the translations of French productions themselves. What proportion the original pieces formed of the whole number of dramas then in fashion, may, to some extent, be guessed from the fact that at the Hamburg theatre itself—which certainly was not enamoured of the French drama—out of fifty-two pieces performed, only sixteen were by German authors, all the rest being translations from the French. The few tragedies written by Germans were carefully constructed on the models of Voltaire and the other French classics. The canons of dramatic art laid down by Voltaire and Corneille were confidently appealed to by German play-writers, as based on the great authority of Aristotle. The two or three writers who deviated from the dominant practice were the precursors of the "Sturm und Drang" movement, that is to say, the honest but superficial admirers of Shakspeare, who thought the remedy for all the unnaturalness of the French drama lay in the abrogation of every dramatic rule.

The chief object Lessing set before him in the *Dramaturgy* was to show up the miserable poverty of the contemporary German drama, and its cardinal blunder in making the French theatre its standard. The radical vice of the French school lay, according to Lessing, in a scarcely venial misapprehension of Aristotle's teaching; and with that jealousy of accurate scholarship which was so prominent a feature of his mind, he sought to re-interpret the Greek master's meaning. He saw the dramatic art fettered by arbitrary restraints, imposed by French authorities in the name of Aristotle, which that philosopher would never have approved; and the love of liberty, which, in its moral and artistic forms, was a no less conspicuous trait of his character than the love of order, impelled him to free his beloved art-mistress from her degrading captivity.

We may now, perhaps, be tempted to regret that Lessing's speculations were limited by any such object as the justification of an ancient authority, even though it be that of Aristotle. It can scarcely be doubted, indeed, that Lessing's conservatism in speculation, however rational, frequently narrowed the range of his inquiries and discoveries. Yet it must be remembered that the public for whom he then wrote were far from possessing the knowledge of the subject derivable from the *Poetics*, and that the apparent retrogression from Voltaire to Aristotle may have constituted in reality an immense advance. Further, it must be allowed that Lessing's conservativism was of the most intellectual order. Instead of caring to abide slavishly by the letter of Aristotle's teaching, he rather strove to seize and to interpret its fundamental method and spirit, so as to show its validity for all art, modern no less than antique. Finally, it should never be lost sight of that Lessing's age did not supply the conditions of a systematic constructive theory of the drama. In this respect his position was exactly opposite to that of his Greek master, for whose theorizing vision there lay close at hand the consummate achievements of Athenian art. It is true, as we shall see, that Lessing was fairly familiar with Shakspeare, as well as other British dramatists; and, in a few instances, his inquiries bear unmistakable marks of having been prompted by the new development of dramatic art presented in our national literature. But the *Dramaturgy*, with all its appreciation of Shakspeare, is wanting in an adequate recognition of the immense bound taken by the poet in constructive art. Though to Lessing must undoubtedly be tendered the honour of having first called the German mind to that appreciative reverence for Shakspeare which has culminated in the excellent translations of Schlegel and Tieck, and in the profound criticisms of Goethe, Gervinus, Ulrici, etc., one can hardly say that his fine critical mind had been arrested and spell-bound by the new glory of the Elizabethan drama. It is possible that if he had added this full appreciation to his splendid critical powers, he might have enriched the world of speculative thought with a philosophy of the drama scarcely less original and profound than that of Aristotle itself.

Only one other general remark on the *Dramaturgy* need be made here. A modern reader will, without doubt, be a little apt to weary of the many lengthy disputes with French critics. Lessing anticipated the objection, and justified the polemical method of eliciting a truth by an appeal to the example of Aristotle him-

self. I think that a patient study of the *Dramaturgy*, no less than that of the *Laokoon*, will fully satisfy a reflective reader as to the fruitfulness of the method in Lessing's hands. Even the tone of personal bitterness that now and then appears may, perhaps, be excused by those who remember with how deep a pang his national pride and his passion for ideal truth must alike have been smitten, as he contemplated the prostrate and servile attitude of his national poetic art.

In giving a brief account of the details of Lessing's criticisms, I must refrain from following the critic into many of his acute and deeply interesting observations. It may be sufficient to say that with scrupulous fidelity to his mission of reform, he fearlessly exposed the poverty of contemporary dramatic productions—not hesitating to silence and even to crush mediocrity *—while he held up to ridicule the affectations of contemporary manners † and the petty conceptions of insulated states. All this is very scathing and humiliating, though one may presume that his countrymen of to-day are scarcely likely to be unduly depressed by this picture of their past low estate.

One illustration of Lessing's noble sincerity of devotion to lofty art art I am unwilling to omit: I refer to his touching allusion to his own personal efforts in poetic composition. In the memorable section with which the *Dramaturgy* closes he distinctly abnegates the titles of poet and dramatist, and claims for his productions only the modest rank of illustrations of his critical principles. How far Lessing was as clear-sighted in this estimate of his own powers as in the criticism of other writers, I shall not here attempt to decide.‡ It is enough to point out the significance of this renunciation, when viewed in connection with the critic's faithful strivings after a higher standard of literature and art.

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* For example, Weisse, whom Lessing pronounced a superficial scribbler, actually gave up play-writing and devoted himself to the production of *libretti* and of juvenile literature.

† In the twentieth section he says, apropos of a German translation of *Cénie:* "Conventional terms of respect contrast, in the most detestable manner, with the exclamations of the deeply stirred heart. When Cénie recognises her mother, she is made to exclaim, '"Frau Mutter!" what a sweet name!' The name 'Mutter' is sweet, but 'Frau Mutter' is real honey with lemon-juice."

‡ A very thoughtful and judicious estimation of this point may be found in Herr Adolf Stahr's excellent biography: *G. E. Lessing: Sein Leben und seine Werke*, Buch vii., Kap. iv.

The stress of the argument in the *Dramaturgy* is clearly directed to the French drama and its theory. The dominant influence of French writers over the minds of his countrymen roused a feeling of bitter indignation in Lessing's soul. "What is there," he exclaims on one occasion, "which must not be learnt from the French? Now and then, indeed, a foreigner who has read a little of the classic writers as well as they, may ask for permission to hold an opinion different from theirs." Yet Lessing was too just to incur even the appearance of a petty national prejudice against the French as French. A noble illustration of his freedom from this narrowness occurs in the eighty-first section, where, after sharply criticising the French tragedy, he writes:

"Do I wish, then, to say by this, that no Frenchman is capable of constructing a genuine tragic work? that the volatile temper of the nation is not adequate to such an undertaking? I should be ashamed if such an opinion had only suggested itself to me. So far from this, I am convinced that no single people in the world has received any mental endowment as its peculiar possession, to the detriment of other nations. . . . I mean that the French do not possess a real tragedy, simply because they have so long grown vain in the certainty of possessing it."

It is in view of this profound conviction, that the incisive polemic of the *Dramaturgy* must be read. It was the manly protest of an accurate scholar and ideal artist against the vain assumptions of inaccurate study and of shallow sentiment.

It must be left to the curious student of literature to accompany Lessing in his elaborate attack on the several representatives of the French dramatic school. As the master-stroke which laid low the foreign usurper in the dominion of German literature, this exposure will always have a peculiar historical interest. But for the general reader it may suffice to indicate the wealth of æsthetic reflection and suggestion scattered throughout these essays, which must always preserve for the *Dramaturgy* the rank of a classic in philosophical literature.

The most striking feature in this polemic is the persistent attack on Voltaire. Some years before this, Lessing had come into personal contact with Voltaire at Berlin, and the history of this relation which is given in Herr Stahr's biography, seems to throw a curious light on the special severity of Lessing's strictures. According to this story, Lessing had seen Voltaire at the zenith of his oracular supremacy in Germany, the accepted poet-laureate of Frederic, and the acknowledged dictator, in matters of taste and scholarship, of

the German public; and, by an odd fortuity of circumstances, had become acquainted with a character, behind this authoritative name, remarkable for its capabilities of meanness and dishonesty.* What Lessing thought of the veracity of Voltaire is easily discoverable in the pages of the *Dramaturgy*. "There are only two untruths," he writes at one place, "in this passage; and that is not much for M. de Voltaire." Yet it may be presumed that this contempt for the moral quality of the man added but one degree of acerbity to the sentiment already excited in Lessing's mind by a discovery of the hollowness of his intellectual pretensions. Scarcely any words, perhaps, could express more distinctly Lessing's opinion concerning the profundity of the writer—of whom, at another place, he writes, "He speaks, and everybody believes"—than the following:—

"I am always so glad to quote from M. de Voltaire. From his most trifling observations there is always something to be learnt; even if not always from what he says in them, yet at least from what he ought to have said. *Primus sapientiæ gradus est, falsa intelligere;* and I could hardly pick out any author in the world, who helps one so well to see whether one stands on the first step of wisdom, as M. de Voltaire; but for the same reason, hardly any who renders us so little service in climbing the second step: *secundus, vera cognoscere.*"

But we must pass from the personal aspect of this dispute to what is of more value for us, namely, its speculative fruits. These may be gathered from well-nigh every criticism of Voltaire's works. Indeed, nothing is more creditable to Lessing's self-control and loftiness of aim than the fact that even in the hottest encounters with his adversary he proves himself to be fighting for some valuable stronghold, some essential principle of his theory. Voltaire's tragedies, says Lessing, fall cold and flat on the human heart, just because he was ignorant of its real nature. Instead of seeking to stir and elevate the human soul, he cared simply to obey certain rules of form, into the grounds of which he never inquired, and which, consequently, he misapplied just as often as he correctly followed them. As a signal example of Voltaire's narrowness of vision and mechanical formality of conception, Lessing selects his mode of observing the classic unities. In the forty-fourth and following pieces, where he gives us an exhaustive critique of the *Merope*, he shows that this lauded production does not conform even to the letter of the

* Mr. Morley just touches on this subject in his able, though somewhat apologetic, account of Voltaire. He does not recognise, however, the effect of these discoveries on Lessing's strictures, and the subsequent estimate of the Frenchman by German writers.

classic rule. For example, Voltaire in this drama gives as the scene a palace in Messina, instead of a portion of a palace, the whole of which might be seen by the eye from a particular standpoint. In reference to the unity of time, Lessing continues, the author had indeed kept the action within the twenty-four hours: but how? only by violating every moral probability. There is, he adds, not only a *physical*, but also a *moral* unity of time, which is the more important of the two. For it is not everybody who can at once see that to traverse a given geographical distance requires more than a day; but every reflective spectator is able to perceive the absurdity of cramming into these limits such a moral event as the evolution of an affection in place of a previous antipathy. These remarks lead Lessing to inquire into the real grounds of those restrictions in the Greek drama.

"It is one thing," he says, "to be at home with the rules; another, really to observe them. The French understand the former; the latter, only the ancients appear to have understood. The unity of the *action* was the first dramatic law of the ancients. The unities of time and place were consequences of the first, which they would scarcely have observed with greater rigidity than was demanded by the fundamental one, had not the union of the whole action with the chorus been another necessity. That is to say, since the action was to be witnessed by a multitude of people, and this multitude always remained the same, and could not be supposed to go further from their dwellings, or to stay longer away from them than people are accustomed to do out of mere curiosity, it follows that these poets had to limit the scene to one single place, and the time to one day."

Closely allied to this unthinking veneration for a verbal rule, was the pedantic sensitiveness of Voltaire, and of French dramatists generally, to *historic* accuracy in the construction of dramatic story. Lessing's strictures on this point are little more than a reiteration of Aristotle's admirable remarks on the same subject in the ninth chapter of the *Poetics*. In the nineteenth chapter, apropos of Du Belloy's *Zelmire*, Lessing seeks, quite in the spirit of his master, to release poetry from too servile a subjection to historical necessity, claiming for her a more universal and consequently a more philosophical character than for history, which deals with the particular. Carrying out these principles into what seemed to him to be their logical issues, he maintains that the poet when drawing his materials from history may vary the incidents at his pleasure, provided he does not touch the characters. These, he says, are sacred. They may be intensified, and set in clearer light. Only their qualitative *differentiæ* must not be tampered with; for other-

wise there would be no reason for adopting the historical names at all. But since we know that Lessing, following Aristotle, regarded the characters of a tragedy as subservient to its action, we may presume that he would scarcely have advised a dramatist to go to history merely for the characters, unless, at the same time, the facts were fitted to suggest a tragic fable. No doubt, as Lessing in another place says, the construction of the characters is an important part of the *invention* of a drama, since they imply some of the main conditions of the action; and since the proper affiliation of the action to these moral forces is a matter of such delicate knowledge. Yet if the artist may with advantage draw materials of character from history, he is scarcely justified in retaining the historical names, unless he retain also a general outline of the historic surroundings.

Lessing has other observations on the proper representation of Character in the drama, to which it may be well just to allude here. Thus, in the fifty-first chapter, with reference to a question of plagiarism in a comedy of Destouches, he draws a distinction between the relative value of character in Tragedy and in Comedy. In the latter, he says, the characters are the main part of the structure, whereas the situations are only the means of eliciting these and bringing them into play. Hence, in estimating the originality of a comedy, one must consider the characters, and not the situations. In tragedy the characters are less essential. "Similar situations give similar tragedies, but not similar comedies. On the other hand, similar characters give similar comedies, whereas in tragedy they scarcely come under consideration at all." Once more, Lessing gives us, in the eighty-sixth and following nine chapters, a long examination into the meaning of Universality of character. Diderot and Hurd had affirmed that the characters of comedy are of a more general description than those of tragedy. But Lessing contends, leaning on Aristotle's words, that the characters of tragedy and of comedy must be alike universal. He calls attention to the fact that a general character may mean one of two things—namely, either an *average* character, or a distinctly *representative* or typical character. But it strikes me that his whole line of observation on this point is unusually weak, and that his thought is here painfully cramped by the desire of deducing a perfect theory from Aristotle.

Quite in keeping with these criticisms on Voltaire's theory are Lessing's remarks upon the relation of the drama to Moral Truth. In the *Semiramis*, Voltaire had introduced the ghost of Ninus, simply to show, according to Lessing, that Omnipotence may, in

exceptional cases, deviate from the eternal laws of nature in order to bring to light concealed crimes. On this he remarks (in the twelfth piece):

"I will not say that it is a fault, if the poet so arranges his plot that it may subserve the illustration or proof of some moral truth. But I venture to say that such an arrangement is anything but necessary; that there are very instructive and perfect dramas which have no such ulterior aim; and that people do wrong in imagining that in various tragedies of the ancients the several parts were all arranged with a view to the moral maxim with which they closed."

And then he proceeds to show that the moral truth intended by Voltaire was "not exactly the most edifying," since it would have been much more becoming "not to suppose the Highest Being in need of any such exceptional devices for punishing offenders." In another place Lessing contrasts the drama with the fable in respect to moral instruction. The latter, being clearly intended to set forth a moral, does not, he thinks, require that perfection of form which we look for in the former. And it is because the drama is controlled by these æsthetic necessities—by the need of following out an action to its close, and by the desire for "a certain pacifying end"—that it is unreasonable to expect in it the distinct inculcation of a moral precept.

A still more striking attempt to secure for dramatic art this freedom from ethical necessities, may be found in the twenty-eighth and following pieces, in reference to a criticism of Rousseau. This writer complained that Regnard had in his *Distrait* made the absent-minded man ridiculous, though absence of mind was no moral defect; and that Molière has made us laugh over the misanthrope, though this character was the most honourable one of the play. He argued that this procedure must tend to make virtue contemptible. Lessing uses the occasion for setting in light the differences between the laughter inspired by comedy, and a contemptuous derision.

"Comedy," he says, "seeks to improve us by laughter but not by derision;* it aims not exactly at mending those defects at which it makes us laugh, still less at improving those persons in whom such defects are found. Its true and universal utility lies in the laughter itself, in the exercise of our capacity of noting the ridiculous, of detecting it easily and quickly under all the disguises of passion and of conventionality, in all its mixtures with worse or good qualities, and even in all the folds of a solemn earnestness. Let it be granted that the *Avare* of Molière never improved a covetous man, nor the *Joueur* of Regnard a gamb er,

* The aptness of the contrast is still better shown in the German words: *Lachen* and *Verlachen*.

and that they are incapable of doing so:—so much the worse for them, but not for Comedy. It suffices for her—if she is unable to cure any desperate maladies —that she strengthens the healthy in their good health. A preservative is also a valuable medicine, and the whole of morality has no more powerful and effective preservative than the ridiculous."

These closing words are quite in harmony with what the writer says in another passage respecting the purification of the passions by tragedy; and they show us that while he claimed for the drama perfect freedom to follow out its own æsthetic ends without any conscious pursuit of moral aim, he held those ends to be not antagonistic, but in the main, highly conducive to morality. It may be added, that Lessing's own dramas fully illustrate the moral influences of the art.

Next to these offences against the liberty of dramatic art, Voltaire's cardinal error lay, according to Lessing, in his misapprehension of the nature and laws of human passion. Nearly all the strictures on this poet's tragedies contained in the *Dramaturgy* point to this fundamental error. I can only give one or two examples of these.

In his *Semiramis*, Voltaire had, after the manner of Shakspeare, introduced a ghost with a view to awaken terror. But, says Lessing (in the eleventh critique), his ghost had not the slightest resemblance to the ghost in *Hamlet*.

"Shakspeare's ghost, it seems to us, really comes out of the other world. For it comes at the solemn hour, in the awful stillness of night, fully attended by all the gloomy mysterious associations, with which, from the nursery, we are accustomed to expect and to think of them. But Voltaire's ghost is not good enough for a bugbear with which to frighten children. . . . Every circumstance disturbs the impression, and betrays the creation of a cold poet, who would like to deceive us, but does not know how to begin. Just reflect on this one fact: in full day, in the midst of the assembly, announced by a peal of thunder, Voltaire's ghost stepped out of his tomb. . . . All those supposed spectators must, of course, on perceiving the apparition, simultaneously utter their terror; and all must do this in different ways, if the scene is not to have the frosty symmetry of a ballet. Imagine, how these confused expressions must interrupt the attention of the spectators to the principal persons of the play. If these central figures are to affect us rightly, we must not only be able to see them, but it is well if we see nothing but them. With Shakspeare it is only Hamlet to whom the ghost reveals itself. Accordingly all our attention is fastened on him. . . . The ghost works on us more through him than through itself. The impression which it makes on him passes over to us, and the effect is too apparent and too strong for us to feel any doubt as to the supernatural cause."

In another place (the fifteenth paper) Lessing shows us how incapable was Voltaire of interpreting by proper expressional signs

the pulsations of natural feeling. And here, again, he betrays his appreciation of Shakspeare's fidelity to nature. The remarks occur in a criticism on Voltaire's *Zaire*, from which I may select the following:—

"'Love himself, has dictated the *Zaire* to Voltaire'—thus speaks a critic prettily enough. He would have been nearer the mark if he had said: 'Gallantry.' I know only one tragedy in which Love himself has co-operated, and that is the *Romeo and Juliet* of Shakspeare. It is true, Voltaire makes his enamoured Zara express her sentiments very elegantly, very appropriately. But what is this expression, compared with that living picture of all the smallest and most secret wiles through which love insinuates itself into our heart, of all the unobserved prerogatives which it secures there, of all the artifices with which it brings every other passion into subjection to itself until it becomes the single tyrant of all our longings and aversions? Voltaire understands excellently what I may call the chancery style of love; that is to say, that language, that tone which love requires when it wishes to express itself in the most cautious and measured manner, when it desires to say nothing except what it can defend before the strong-minded prude and the passionless critic."

Moreover, as Lessing aptly remarks in another place, the modern drama is much better off than the classical, with respect to natural spontaneity of expression. For the presence of the chorus throughout a Greek tragedy imposed a certain degree of self-command on the persons of the drama, whereas the greater number of modern scenes are supposed to occur without any witnesses "within four walls."

It is this same fastidious regard for propriety, to the neglect of spontaneous nature, which Lessing attacks in another place, when criticizing some remarks of Voltaire respecting the fitness of a box on the ear for dramatic spectacle. The whole passage (the fifty-fifth and following pieces) is exceedingly curious. Voltaire wished to banish this mode of insult from tragedy altogether, on the ground that it is impossible for the insulted players to behave appropriately under the first smart of the blow. To this Lessing replies:—

"The actor may behave in these circumstances as he will. The dramatic poet works, it is true, for the actor; but he must not on that account abstain from everything which is less convenient and agreeable to the actor. No actor can blush at pleasure; yet the poet may bid him do so,—yet he may make one actor say that he sees the other blush. . . . But perhaps the spectator does not wish to see the box on the ear? or, at least, only if administered to a servant, to whom it is no special disgrace. For a hero, on the contrary, for a *hero*, a box on the ear—how unseemly! But supposing that this is precisely what it is intended to be? Supposing that just this unseemliness is to become, and actually becomes, the source of the most violent resolves, the most bloody revenge? Supposing that any slighter insult would have been inadequate to produce these terrible effects? A thing which may grow so tragic in its consequences, which occurring between certain persons *must* grow so tragic, this,

forsooth, is to be banished from Tragedy because it occurs also in Comedy and in Farce? May not the very same thing which on one occasion provokes our laughter, on another occasion inspire us with terror?"

Accordingly, so far from expelling this insulting action from tragedy, Lessing proposed rather to banish it from comedy, regarding it, according to its consequences, as either too serious or too farcical for this species of the drama. How thoroughly Lessing was opposed to the tame respectability and stilted dignity of the French *dramatis personæ*, may be seen by a study of his own dramatic works. His *Miss Sara Sampson* was a courageous attempt to bring the dramatist's magic mirror from courts and palaces to the less fettered and more natural life of private homes. It is apropos of the representation of his piece at the Hamburg theatre that he writes as follows:—

"The names of princes and heroes may give a piece pomp and majesty; but they contribute nothing to its pathos. The misery of those nearest to us must naturally affect us most powerfully; and if we feel compassion for kings, we feel for them as men and not as kings. If their rank often makes their misfortunes more important, it does not make them more interesting. Whole peoples may possibly be involved in the disaster; yet our sympathy demands a single object, and a State is far too abstract an idea for our feelings."

Next to Voltaire, the chief representative of the French drama to whom Lessing directed his attack, was "the great Corneille." When criticising the *Rodugune* (in the twenty-ninth and following papers)—which the author himself regarded as his most finished production—Lessing gives us a masterly analysis of the trick of plot-building as contrasted with the artistic development of a simple series of natural actions.

"Genius," he says, "can only conceive events which are fundamentally connected with one another, that is to say, chains of causes and effects. To refer effects to causes, to measure causes in relation to effects, to exclude in every place the accidental, to make everything happen in such a way that it could not have happened otherwise; this, this is his work when he labours in the field of history, seeking to transform the useless treasures of memory into nutriment for the mind. Cleverness, on the contrary, dwells on events which have nothing in common except that they happen together. To bind these together, so to interweave and confuse their threads that we are for ever losing one in the other, for ever being hurled from one surprise into another—this, cleverness can accomplish, and only this. . . . Genius loves simplicity; cleverness, complications."

But the great vice of Corneille's art consisted, according to Lessing, in its morbid love of the horrible. "He ought," says his critic "to have been called not the Great, but the Monstrous, the Gigantic."

As an example of Corneille's monstrosities Lessing takes the character of Cleopatra in the *Rodagune*.

"Compared to Cleopatra," he says, "Medea is virtuous and lovable. For all the cruelties which Medea resorts to, she resorts to out of jealousy. I can forgive a tender and jealous woman everything. She is what she ought to be, only too violent. But our whole heart rises up against a woman who practises impious crimes from cold pride and from deliberate ambition; and all the poet's art is unable to make her interesting to us. We stare at her as at a monster, and when we have satisfied our curiosity, we thank heaven that Nature commits such a blunder but once in a thousand years. . . . No woman ever thought and felt what Corneille makes Cleopatra say of her own free will, the most senseless bravadoes of crime. The greatest villain knows how to excuse himself, how to persuade himself that the crime which he is committing is not a great one, or that he is coerced to it by necessity. It is contrary to all nature that he should boast of his crime as a crime; and the poet is to be most severely blamed who, from a desire to say something splendid and strong, makes us so misunderstand the human heart as to suppose that its deepest inclinations can move towards wickedness as wickedness."

The influence of Corneille and his school in this particular was clearly observable in the writings of German dramatists. Weisse, who rejoiced in the title, "the German Shakspeare," appeared in the same way to regard the horrible as the proper subject of representation in tragedy. "The character of his Richard the Third," says Lessing, "is indisputably the greatest and most detestable monster which the stage has ever had to bear. I say, the stage: that the earth ever actually bore it, I very much question."

In thus contending against the representation of the horrible in the drama, Lessing struck, as Herr Stahr observes, at the radical blunder of the French dramatists, which consisted in a curious misinterpretation of Aristotle's doctrine. The well-known definition contained in the sixth chapter of the *Poetics* runs as follows:— "Tragedy is the imitative representation of a serious and complete action, having a certain magnitude . . . . effecting, by means of pity and fear, the purification of suchlike passions." Corneille and his school had substituted for the idea of fear that of terror or horror. Since they could not well evoke this emotion in connection with pity or compassion, they concluded that it must constitute one sufficient end in itself. That is to say, they conceived Aristotle as saying that tragedy may produce *either* terror or pity. Agreeably to this supposition they produced on the one hand the kind of horrible drama already described, on the other hand, a species of tender or pathetic tragedy representing the sufferings of innocence. Lessing saw in this theory a stupid ignorance of Aristotle's meaning.

The word φόβος, he said, denotes not horror, that is, an overwhelming painful emotion, but a calmer and more reflective state of feeling, in which prostrating wonder before the stupendous and vague is wholly wanting. It means a gentle tremor of mind which results from the reflection, that an evil similar to the one beheld by the spectator may light on himself. And this emotion, so far from being unconnected with pity, is but another side of it, and forms with it one mental state, in which consciousness passes from the one phase to the other with infinite rapidity. Thus, the same species of dramatic spectacle that awakens pity awakens fear, and conversely. Hence, says Lessing, since tragic effect depends on the spectator's identifying himself for the moment with the affected person, Aristotle distinctly excluded from tragedy the representation both of a perfectly innocent man enduring suffering, and of a thoroughly wicked man overtaken by disaster.

Another point connected with Aristotle's definition of tragedy which Lessing seeks to clear up, is the meaning of the purification (κάθαρσις) of the passions. Several theories had been propounded by French critics respecting the nature of the passions to be thus purified. For example, Corneille supposed that they included the evil passions represented in the tragedy, namely, anger, lust, etc. Lessing adopts an interpretation which is not only a natural one, but one which well harmonizes with Aristotle's system of ethical ideas. The passions requiring this purification are, he says, the fear and pity themselves. By the ideal excitation of these feelings through dramatic representation, the actual emotions are to be regulated; that is, excited if dormant, and repressed if in excess, so that the spectator may be brought into that mean ethical state in which all virtue consists. Lessing adds, that an adequate conception of Aristotle's purification, implies the understanding of four distinct mental processes, namely, (1) how the tragic fear purifies our fear, (2) how the tragic pity purifies our pity, (3) how the tragic pity purifies our fear, and finally, (4) how the tragic fear purifies our pity.

With respect to this rendering of Aristotle's definition it seems to be commonly allowed by subsequent writers that Lessing was right in regarding the fear and pity themselves as the object of the κάθαρσις. At the same time, different opinions have been held respecting the meaning of the term purification itself. Thus, it has been maintained by Müller, Vischer and Stahr that tragedy purifies the feelings of pity and fear through its *representative* and mediate

character, that is, by eliminating the *painful* element that belongs to them when called forth by the immediate presentation of actual calamity.* Max Schasler, again, finds the process to consist in the *idealization* of the spectator's feeling, that is, in the elevation of the individual mind out of its narrow egoistic feelings into the freer consciousness of a universal existence.† Finally, Ueberweg, following J. Bernays, argues with considerable philological force that by κάθαρσις Aristotle meant the temporary deliverance of the mind from its emotional pressure, that is, the satisfaction in ideal form of certain emotional needs, or regularly recurring emotional appetites.‡ Without seeking to decide between these various interpretations, I may call attention to the fact that, if Ueberweg's version is the correct one, Aristotle had a conception of the function of art curiously resembling that of Mr. Herbert Spencer, who, reasoning on the hypothesis of evolution, assimilates the effect of art to the impulse of Play, each of these being "an artificial exercise of powers, which, in default of their natural exercise, *become so ready to discharge* that they relieve themselves by simulated actions in place of real actions."§

It may perhaps be doubted whether, in this exposition of Aristotle's theory, Lessing attained the fullest conception of the effect of tragedy. As I have before hinted, his allegiance to this venerable authority, however intelligent, was necessarily narrowing to his speculative vision. Professor Vischer, in his elaborate work on Æsthetics, rightly says, in reference to this whole discussion, that the days of authority are over; and, in the same place, he brings into view the moral ideas and sentiments which tragedy awakens, and which in every reflective spectator necessarily modify the effects of fear and pity. To this one may add that a deeper psychological knowledge would show that the fear of Aristotle, as understood by Lessing, is no necessary effect of tragedy at all. The gradual unfolding of another's sufferings calls up in the mind of the observer a *sympathetic fear*, without this necessarily resolving itself into a distinct idea of a similar possible fate for himself. As I have remarked in another essay, the impulse to enter into another's suffering acts immediately and instinctively, as soon as the nature of the

* E. Müller: *Geschichte der Theorie der Kunst bei den Alten*, Second Part, page 62. Theodor Vischer: *Æsthetik*, Part I., page 329. Adolf Stahr: *G. E. Lessing*, Vol. I., page 348.

† *Æsthetik.* Vol. I., page 168.

‡ *Geschichte der Philosophie.* Page 178. Note on κάθαρσις τῶν παθημάτων.

§ *Principles of Psychology.* Vol. II., page 630.

calamity becomes intelligible, and provided no other considerations occur fitted to check this activity. There is always, no doubt, this amount of the egoistic in tragic fear, that our capacity of feeling it is in part determined by our own individual experience of similar evils; and thus we are unable to take part in a misery, the nature of which has never been rendered familiar by individual experience. At the same time, this is not the only condition of the pulsations of emotion which a tragic disaster is fitted to call forth. As we have seen elsewhere, the energies of sympathy are attracted to certain persons, while they are repelled from others. A shocking criminal overtaken with misery fails to call forth our sympathetic feeling, not, as Aristotle and Lessing appear to say, because we are unable to conceive ourselves undergoing a similar experience, but because another aspect of the object, namely, that of the criminality, calls up more rapidly and more forcibly a feeling directly antagonistic to sympathy. Thus we see that the genesis in the spectator's mind of a nascent sympathetic fear is not a mediate process, depending on an egoistic conception, but an immediate and instantaneous one.

It is true, no doubt, that there may present itself in the spectator's mind, as an accompaniment of this instinctive feeling, a distinct conception of a possible individual experience of the calamity represented. And this play of reflective consciousness in the more thoughtful order of mind gives rise to that intuition of a common human lot which Schasler thinks to be the essence of tragic effect. Yet this result must be looked on as a secondary, even if an important, ingredient of the impression, by no means essential to the first and main interest of tragedy. With the same show of reason, one might say that an essential factor of tragic effect is the spectator's reflection—which undoubtedly tends to occur to the mind and to minister an appreciable quantity of pleasure—that he himself is far removed from the immediate causes of the suffering. It appears evident that these reflections, while they may add a distinct æsthetic gratification to the spectacle of tragedy, are secondary, not only in time but also in importance, to that quick sympathetic vibration of soul which is the main generator of a warm interest in a tragic fate.

Finally, it may be said that the feeling of pity, which Aristotle rightly renders so prominent in his explanation of tragic impression, tends with irresistible force and infinite rapidity to succeed the distinct sympathetic appreciation of another's woe. It is in this emotional impulse, rather than in any subtle and intricate processes of reflec-

tion, that we must look for the influence which relieves of its painful sting and transforms into a comparatively pleasurable feeling the impression produced by another's suffering. As Mr. Spencer well remarks, there is a certain need of pity in the human heart, which may appropriately be traced to the play of a deep and powerful instinct through innumerable generations. And tragedy, by supplying ideal channels for this sentiment, serves, as Ueberweg says, to lighten the mind of its pent-up emotional forces. Thus we may trace the effect of tragedy, like that of all art, to the play of *natural* sentiments, called forth in actual life, and deriving gratification from the ampler ideal region of action which art supplies. It is true that art, chiefly by its unreality, serves to modify the action of these natural feelings, and to add new gratifications dependent on a recognition of the artistic character of the object; but the *body* of the sentiment called forth by art is always a natural feeling.

It seems scarcely doubtful that an undue concentration of mind on the effects of tragedy made prominent by the Aristotelian definition, led Lessing in one or two instances to a comparative neglect of other influences of this many-sided art. Even where he comes provokingly near a recognition of these other forces, he falls short of a full acknowledgment. This appears to be true of his elaborate remarks on the mixed or Gothic drama of Spain (in the sixty-ninth and seventieth pieces). His ridicule of the *soi-disant* friends of Nature, those who advocated the unintelligent and mechanical reproduction of all the complicated details of nature, without any selection or co-ordination, is thoroughly just, and is worthy of being repeated here.

"These people," he writes, "would imitate the nature of phenomena without in the least attending to that other nature of our feelings and mental powers. In Nature everything is bound up with everything else: all events intersect one another, alternate with one another, pass into one another. But in this endless variety it is a spectacle for none but an infinite mind. Finite minds, in order to enjoy this spectacle, had to be endowed with the power of giving limits to nature, of separating phenomena, and of concentrating attention. These powers we exercise every moment of our life: without them there would be no life for us. The aim of Art is to release us, in the domain of the beautiful, from this necessity of separating phenomena, and to lighten the work of concentrating our attention."

Applying this conception of artistic imitation to tragedy, he goes on to say:—

"When we are witnesses of a solemn and affecting event, and another trivial circumstance directly intersects it, we seek to the utmost to avoid the distraction. We abstract the event from its irrelevant surroundings, and we can only

feel disgust at finding in Art the very thing we wished far away in Nature. Only when the same event in its progress assumes all shades of interest, and one not only follows the other, but springs necessarily out of it: when solemnity begets laughter, or misery, joy, or conversely, so immediately that the abstraction of the one or of the other becomes impossible—only then we cease to desire it in art; and art knows how to derive an advantage out of this very impossibility."

Herr Stahr sees in this passage a justification of Shakspeare's use of laughter in his tragedies. Yet, fine as it undoubtedly is, it appears to me to state only one half of the truth. As I have remarked before, the play of our emotional forces gives rise to two general laws of Art. The tendency of any feeling to occupy the whole of consciousness necessitates a certain *harmony* of impressions, while the rival activities of distinct emotional tendencies justifies a certain amount of *relief*. In addition to this, as Mr. Bain has remarked, the tension of mind in view of a serious and affecting spectacle acts very much like external constraint, so that a momentary relaxation brings with it the sense of relief, which is one mental antecedent of laughter. Hence a temporary transition of mind from the contemplation of a huge calamity to the recognition of some half-ludicrous incident—if done with a master's hand, in conformity with the requirements of artistic truth, and in due subordination to the supreme love of harmony, as in *King Lear*, for example—affords an emotional relief which has nothing of painful discordance in it. We pass from tears to laughter when we read Shakspeare, not only because, as Lessing says, the exciting causes in the events themselves are so inextricably woven together, but because relief is a necessity of emotional life.

Another instance of Lessing's disposition to disparage the secondary and auxiliary influences of tragedy, may be found in his observations respecting the effects of Surprise (in the forty-eighth and following pieces). Following out some remarks of Diderot, he seeks to show that surprise has no place at all in tragedy, and he gives it as his opinion that it would be an advantage to return to the Greek custom of indicating beforehand by a prologue, the course which the events are to take. Regarded as a disparagement of the extreme craving for unexpected sensational effects, these remarks may no doubt be very just; yet they curiously leave out of sight the emotional sources of pleasure in the imaginative anticipations of a plot. It may be a striking proof of attention to artistic form, that a spectator is able to enjoy a thrilling tragedy just as much after he knows the ultimate catastrophe, as before.

Yet is not this piece of æsthetic asceticism somewhat unnecessary? and does not the exclusion from the drama of this universal instinct savour rather too much of a contempt for ordinary human nature? One knows that a drama is not the same thing as a romance, but one fails to see why imagination should be denied its satisfaction in the one any more than in the other.

One other omission of a similar character is worthy of mention. Lessing very rightly attacks the heroic species of tragedy so fashionable in his time, and, following Aristotle, contends that perfection of character, so far from quickening the tragic impression, deadens it, by removing the person from the range of our sympathies. Yet he does not tell us whether, or how far, our moral feelings may be appealed to for the purpose of enlisting our interest in the chief personages. It is only when a degree of virtue strikes us as *unnatural* and chilling that it repels our sympathetic interest from a character. If it be a truly human virtue it seems to attract and hold our sympathies more powerfully. Warm admiration, as we have seen, is closely related to affection, and seems to bring an object nearer, so to speak, to the radiating glow of our sympathy. We feel all the more for Othello in his error and its terrible consequences because we were at first so deeply impressed by his frankness, courage, and noble ingenuousness. These considerations should be borne in mind in estimating what Aristotle and Lessing teach respecting the introduction of a worthy person's calamity. It would be difficult, one suspects, to show that our exquisite interest in Cordelia's bitter woe depends in any degree on a recognition of some defect of character.

It thus appears that Lessing concentrated his attention too exclusively on the main and distinguishing features of tragedy, so as to overlook the many tributaries of emotional influence which help to fill up the great river of tragic impression. Yet these oversights are scarcely a discredit to one who effected so much in re-discovering the highest powers of dramatic art, at a time when these powers were nearly dormant. The *Dramaturgy* gave the impulse to all that is best in the modern German drama, and laid the foundations of that rich, speculative literature which has grown up along with it. More than this, we may still turn again and again to its pages for illuminating flashes and pregnant suggestions; and probably it will be long before any number of more systematic treatises on the subject render this resort unprofitable.

# ON THE POSSIBILITY OF A SCIENCE OF ÆSTHETICS.

THE chaotic state of opinion on all matters relating to the Fine Arts seems to indicate that we are still far from the construction and even from the conception of an Æsthetic Science. Speculation on art has always been characterized by a high degree of mysticism. In common with all departments of experience in which the emotional element is predominant, art has stubbornly sought to exclude the cold, gray dawn of scientific inquiry. With a special tenacity, indeed, she has wrapped herself about in the grateful gloom of a mystic twilight. For is it not her peculiar office to minister to the imagination, drawing the contemplative soul high above the region of fact and law? and would not any attempt to investigate her processes with the keen, measuring eye of science be an outrage on this supreme right of phantasy to live apart, undisturbed by thought of what is, and must be? No doubt art does often delight by means of the hidden and mysterious. And it is scarcely to be wondered at, perhaps, that so many of her worshippers have clung to the idea that all her power on the human soul is an insoluble mystery.

One may see, too, this same supremacy of the mystical in very much of what is offered as æsthetic theory. On the one hand, there are the metaphysicians, from Plato to the last of the Germans, who have descanted beautifully on Beauty, and argued with admirable dialectic skill that in its essence it is the partial revelation, dim through its sensuous medium, of the ultimate reality, the divine idea.* The intuition, by the divine element in the soul, of the supernal and unattainable glory is clearly no subject for the profane discussion of empirical science; and, accordingly, this sublime theory effectually

* But few English readers, probably, have any conception of the bulk and diversity of German metaphysical speculation on Beauty and Art from Baumgarten downwards. The fact that there is a German verb to express this species of speculation, *æsthetisiren*, may perhaps suggest the voluminous character of these discussions. The most complete account of the German systems is to be found in the histories of Lotze and Max Schasler.

silences all attempts to deal with beauty and the fine arts as a group of phenomena, complex indeed, but still open to observation and to analysis. On the other hand, we have the dogmatic critics, nimbly wielding a number of artistic principles, the origin and limitations of which too often escape their attention, and which they apply as indisputable intuitions with a promptness which may well infuse awe into their uninitiated readers.

One can hardly blame the majority of artists if, in the midst of this intellectual gloom, they have come to the conclusion that æsthetic speculation, whatever its intrinsic value, was never intended for them, and that they will effect more by a simple observation of what artists have done than by a study of the most elaborate treatises on what they ought to do.

Nor is it to be wondered at, perhaps, that, in view of this unscientific condition of æsthetic theory, the more thoughtful lovers and students of art have tacitly ignored the possibility of an objective doctrine of Art, and have fallen back on a more historical and individual method of criticism. Without troubling themselves about the question, what worthy art universally consists of, they have diligently sought to trace out the relation of artistic production to the artist's nature, education and social surroundings. This concentration of thought on the subjective side of art-production has been favoured by the growth of the historic interest in all regions of inquiry. Through a natural reaction against the contradictory and unverifiable conclusions of metaphysics respecting human nature and its destiny, contemporary thinkers have learnt modestly to occupy themselves with the actual developments of human nature as they reveal themselves in history. One may see this change of standpoint in the best contemporary ethical inquiries. Similarly, with respect to art, one finds that some of the finest critical thought has employed itself in studying the historical developments of the artistic spirit, and in separating the many fine and complicated filaments of spontaneous individual genius and of social influence which compose the roots of all great artistic achievement.*

Now it is surely a reasonable supposition that this line of investigation, however interesting, and fruitful of inspiring thought, is

* Since this essay was put in type, Mr. John Morley, in a highly suggestive paper on *Compromise*, has called attention to a similar effect of the historical spirit in promoting a certain indifference respecting the objective truth of moral and political propositions. See the *Fortnightly Review* for April 18, 1874.

insufficient. All art, it may be urged, reveals, in addition to the play of individual genius and of social influences, the action of universal laws of human sensibility. The artist, however rapid and instinctive may be the activities of his inventive spirit, is aiming consciously or unconsciously at something which shall answer to many human ideas and satisfy many human desires. Strictly speaking, his creations are artistic only so long as they conform to these conditions; otherwise, they become simply the fine vagaries of a brilliant but ill-regulated mind.

One may argue, too, that a perception of the real objective significance of art is a valuable possession for the artist himself. It seems as if the age of naïve spontaneous production, swayed by no influence more palpable and distinct than that of the artist's emotional and imaginative impulses, has long since passed away. We look, now-a-days at least, for a reflective and highly conscious artistic labour. Few, perhaps, will question that such reflection, if not allowed to overweigh the spontaneous element, is a new force in the artist's mind. Who doubts that Da Vinci and Hogarth, Goethe and Schiller, Schumann and Wagner, owe something of their artistic power to the habit of meditating patiently and with philosophical breadth of view on the nature and aims of art? *

The supposition that all art is something mysterious and insusceptible of analysis and generalization, can scarcely satisfy the thoughtful lover of art, who is accustomed to reflect, not only on the subtle differences of school and of individual artist, but on the feelings and ideas which pass through his mind in orderly sequence under the spell of a master-work. A very little consideration may teach such an one that, with all that is arbitrary, changeful, and purely relative in æsthetic effect, there is also an element of order and permanent uniformity. He may indeed look back in memory on the progress of his individual æsthetic development, the greater part of which, unlike that of ethic culture, lies within distinct view. While he sees much that was crude and evanescent in the progress of his taste and artistic judgment, he may see, too, something that has remained throughout, growing clearer and clearer, and gradually shaping itself into a well-adjusted emotional

* Friedrich Schlegel had a clear vision of the value to artistic creation of a correct theory of art. He says in his work, *Ueber das Studium der griechischen Poesie*: "A degenerate and disorganized force needs a criticism, a censorship, and this presupposes a legislation. A complete æsthetic legislation would be the first organ of the æsthetic revolution."

and intellectual organ. Similarly, a review of the history of art must disclose to a fairly thoughtful mind not only the wide and apparently unlimited variation in form of production and in its regulative taste, but also the constant tendency to a certain consensus of æsthetic feeling and judgment, and to the recognition of an ideal excellence, by moving towards which, each art acquires a greater permanent value.

It is, one may venture to think, this discoverable tendency in all æsthetic development which makes a *science* of æsthetics possible. On the one hand, if it is to be a science, ready to accept every fact, and to reason from it, and not a series of unverified deductions from *à priori* principles, it must adopt all that the staunchest advocates of an unfettered individuality assert with respect to the *relative* value of beauty and of all possible canons of art. Indeed, it will have to admit that no one principle of æsthetic effect, however universal and permanent its influence appears to be in the development of the arts, has a simple and absolute validity. For is it not conceivable that, in the course of myriads of ages, human organism and conscious faculty may undergo such changes, as to render some seemingly permanent source of enjoyment inoperative? What a change, for example, would be brought about in all our æsthetic experiences by the development of a new organic sensibility—not at all an impossible supposition if evolution be the actual order of things. Yet, happily, a theory of life and practice does not require an absolute, but only a relative permanence of human nature. It is sufficient, for example, if our ethical doctrines have a relative validity, not only for ourselves, but also for many new modifications of human nature. In like manner, it will suffice, if one can discover tendencies in æsthetic idea and sentiment sufficiently distinct and uniform to be raised to a law of art, so long as art itself remains what we now conceive it. But while seeking to extract this element of permanence, æsthetic science will be very fearful of making it wider than the facts warrant, and thus of overlooking the vast region of the variable and the indeterminable in the effects of art. Not of course that any phase of a passing taste, any species of crude artistic judgment, is an insoluble phenomenon, insusceptible of affiliation to psychological and historical law. What is here meant is, that such variations do not help to furnish the *final standard*, or the ideal end, which æsthetic science, as a doctrine of practice, is mainly concerned in determining.

It will at once be seen, from this tentative definition of the nature

of æsthetic science, how it is related to Psychology. Psychology, as it is usually conceived, is an abstract science, which discusses the laws of sensation, thought, etc., as they present themselves in all varieties of the individual human mind, and does not concern itself, primarily at least, with any sequent order discoverable in the development of our intellectual and moral nature. Thus, psychology will analyze and explain the growth of a given emotion, say the moral sense, without enquiring when this emotion first shows itself in the progress of the human race.* But this temporal order among the concrete phenomena is an essential part of æsthetic investigation, which aims at discovering what point æsthetic culture is always tending towards. That is to say, æsthetics will rest in part on abstract psychology and in part on anthropology, or the science of human development.

On the other hand, it is evident from this conception of an æsthetic science that it will derive a part of its data from the History of Art. A just conception of the evolution of æsthetic ideas and sentiments needs to be verified by a study of the actual order of progress of the arts themselves. That is to say, one will have to examine the laws of growth and of transformation among the arts, from their infancy among rude uncivilized races, up to their finest developments among the cultivated peoples of our own age and of antiquity. In carrying out this inquiry great care will have to be taken in eliminating all that is accidental in the successive manifestations of artistic production, and in abstracting only that which is due to a real intellectual and moral progress.

Thus a theory of æsthetics would have to proceed by means of historical research supplemented by psychological explanation. The widest possible knowledge of all that art has done and sought to do would need to be completed by an inquiry into the law and tendency of these variations, on the supposition of a general progress in intellectual and other culture. The truths thus arrived at, when interpreted as the consequences of general psychological laws, would furnish the *axiomata media* which a concrete and practical science like that of the fine arts requires. A very similar line of inquiry, it may be said, has been carried out with respect to ethical subjects. The universal elements running more or less distinctly through all moral phenomena have been

* I have called attention to this peculiarity of general or abstract psychology in the opening essay.

defined and formulated, and while the relativity of moral feeling and judgment with respect to age, country, individual temperament and education has been fully maintained, the tendency of all moral standards to approach one another has been adopted as the foundation of a final theory of the ethical end. If this is so, one does not see why a theory of the highest ends of art having equal range of validity is rendered impossible. In the following remarks I shall attempt, by help of the general conception thus roughly defined, to indicate very briefly the probable direction and nature of æsthetic inquiry.

In approaching the subject of art, its nature and effects, we are at once met by a difficulty respecting the extent of the objects and pleasures denoted by the term æsthetic. The germs of art have been found by Mr. Spencer, putting an idea of Schiller into a scientific form, in the impulses of play (*Spieltriebe*); and there is no doubt that emotions and impulses, embodied in what is usually called art, betray themselves in earlier and ruder productions. Thus, for example, all the imitative and fanciful side of children's play has clearly an affinity with artistic creation. On the other hand, as a mere overflow of spontaneous energy, seeking no delight but that of vented energy and of movement, play is less obviously connected with art, even though it be true that all artistic production springs in part from such spontaneous impulse. The essence of art may be provisionally defined as the production of some permanent object or passing action which is fitted not only to supply an active enjoyment to the producer, but to convey a pleasurable *impression* to a number of spectators or listeners, quite apart from any personal advantage to be derived from it. According to this conception, the earliest and crudest forms of art would be found in such simple devices as personal adornment, or the donning of gay colours, and the display of manual or vocal skill, undertaken not as a pleasurable activity to the individual himself, but with a distinct intention of impressing and dazzling the mind of his neighbours. Thus it is a distinguishing mark of artistic activity that it is fitted to afford an immediate delight by the medium of a visible or audible impression, which delight owes nothing to suggestion of personal gain, but is available for a number of different minds.

This conception obviously excludes all hypotheses of some one eternally fixed quality of art, some essence of Beauty. The labours of all the metaphysicians have not yet succeeded in discovering wherein this subtle entity consists, and a science of art can derive

no advantage from the further prolongation of the search. Inductive research clearly shows that the properties of art in its successive developments are innumerable, and can only be subsumed under some such conception of pleasurability as the one just given. Hence, the foundations of a genuine science of art must be sought in the nature and laws of the feelings which it is fitted to gratify. Assuming that the essence of art is to gratify certain emotional susceptibilities, we have to examine into the precise nature and laws of these pleasurable feelings, and, if possible, to deduce from these some principles fitted to be a scientific basis for artistic practice.

A brief examination of all artistic gratifications thus conceived, as they are exhibited not only in contemporary art, but also in that of the recorded past, is sufficient to show us that they are by no means purely artificial growths, dependent on the development of art itself, but consist in great part of enjoyments afforded by pre-artistic and natural objects. Thus, for example, the brilliant ornaments of a savage owe their charm to the play of visual sensibilities which were first exercised by natural objects, such as sky and foliage, bird and beast. So again, a picture by Wilkie pleases the observer by reproducing in artistic forms scenes of happiness and merriment in simple daily life. Once more, a poem like Thomson's *Seasons*, not only gratifies the ear by sequences of verbal sound and cadence rendered pleasing in the progress of social life, but presents faint images of those changing phases of nature which have impressed and delighted us again and again in the swift succession of the years. From these examples we may see that art, in its first and simplest aspect, is a mere variation and expansion of pleasures imparted to the eye and ear by nature, whether inorganic or organic, by sky, sea or mountain, tree, bird or quick-feeling and far-compassing man. Hence, the first step in æsthetic inquiry seems to be to determine the nature and elements of natural beauty, in the widest sense of this expression. By adopting Mr. Spencer's conception of æsthetic delight, we may say that art supplies a supplementary vent for pleasurable energies fostered and developed during the natural progress of the life-functions. In other words, art gratifies by giving additional play and temporary relief to impulses, gradually built up by the actions and reactions of the external environment and the organism.

The psychological classification and explanation of these pleasures has been carried to a considerable degree of perfection. I need but to refer to such writers as Alison, Professor Bain, and Mr. H. Spencer,

together with those German *Naturforscher* who have sought to discover the precise laws of pleasurable nervous stimulation in impressions of colour and tone. On the other hand, the psychologists, with the exception of Mr. Spencer, have done little or nothing towards tracing the order of growth of these several gratifications. What remains to be done in this direction may perhaps be thus indicated.

First of all, the best classification of the pleasures which thus afford the raw material of artistic impression has still to be decided on. This should be as exact as possible, psychologically considered, and still have a direct bearing on artistic results. It should, seek, moreover, to recognize and embody those empirical ideas of artistic effect which dominate in popular criticism. Possibly, some such scheme as the following might suffice: (1) The Primary Pleasures of Stimulation, dependent on certain organic conditions of single impressions. These would include the passive sensations of light, colour, and tone, and the active sensations of visible movement and form. (2) The Secondary Pleasures of Stimulation, dependent on certain organic conditions of a plurality of impressions. These include the gratification due to Novelty or freshness of impression, and the pleasure which attends a Harmonious stimulation in tone and in colour. These organic conditions apply to all other modes of pleasure as well. (3) Pleasures of ideal revival when the idea assumes the form of Immediate Inference, namely, the gratifications derived from a perception of spatial facts, the pleasures resulting from a sympathetic reading of human language and emotional movements, etc. (4) Pleasures of ideal revival when the idea presents itself as a Recollection, whether distinct or vague, that is to say, the enjoyments which accompany the moods of memory, reverie and æsthetic contemplation. This class includes the delight afforded by complex natural objects, pre-eminently landscape or still life. The emotional influences of music also belong to this category. (5) Pleasures of intuition which involve a higher form of Intellectual activity, namely, the recognition of some Relations or Qualities of objects. Under this head would be included the sentiments corresponding to the Amiable and the morally Admirable, the Ludicrous, the Sublime, and the Beautiful, in its various aspects of unity, proportion, and adaptation. (6) The Pleasures of Imagination in its most extended signification, including the gratifications which accompany the filling-up of the unknown, in space and in time, the transformation of the real by

the tendency of the mind to idealize, and the satisfaction of the universal longings for something higher and more complete than the actual.

Each of these species of pleasure would have to be thoroughly examined by means of the fullest observation of human nature and life; and the precise mental laws involved in them would need to be exactly stated. Many interesting questions thus opened up, still await their solution. What, for example, is the precise law of pleasurable nervous stimulation, as exemplified in single tones and colours, and in their combinations? Is any part of the seemingly simple effect of tone or colour a result of inherited association? The emotions, again, capable of being directly stimulated by visible objects, need to be examined and reduced to the fewest psychological principles. Among the most interesting points to be considered here, are the nature of the sentiment of sublimity, the precise causes of laughter, under all its forms of the quaint, the incongruous, the mean, the tenderly humorous. How the pleasures of perception first arise, how it is that proportion, unity, and all that is included under beauty of form has come to be so prominent an ingredient in æsthetic impression, is one of the most interesting points in the science, which possibly admits of no definite solution except in connection with a study of other developments of the human mind. Under the department of associations, one has the hardly less interesting inquiry, how it is that many painful experiences become transformed into the comparatively pleasurable moods of sad reverie and pensive melancholy. The complex and subtle pleasures of imagination, again, are far from being adequately understood. Some additional light might possibly be thrown upon the subject by considering the early prodigalities of fancy in children and in the lower races. In seeking to understand imaginative activity, one would need to distinguish three ingredients, namely, the intellectual, the emotional and the active or volitional. First of all, imagination is obviously limited by experience and by association. Secondly, it involves the satisfaction of ideal longings, that is, the thirst begotten of the several emotions for a fuller and purer form of delight. Thirdly, it includes a pleasurable volitional activity, as manifested in the pursuit of a hidden meaning, in the anticipation of a coming issue, and so on. These activities would need to be illustrated by a consideration of the several aspects of the unknown, such as the unwonted and weird, the vast and undefined in space, the remote in time, the dim in colour, the soft in tone, the unexplored depths of a

human mind, and so on. Under this head one would need to consider the large pervading ingredient in æsthetic pleasure which is afforded by what may be called Subjective or Anthropomorphic Fancy, that is, the personification of objects and the attribution of feelings and ideas like our own to things totally unlike ourselves.

Such a completed system of æsthetic pleasures would furnish the first factor in the required End or Ideal of art. It would give the first dimension in the æsthetic measure, namely, *extension*, or the whole volume of pre-existing human susceptibility to artistic delight, out of which every effect of art must, in a sense, be drawn. By help of it, we might arrive at a first rough definition of art. A work of art, according to this conception, is a product of human activity which, through the impressions of the eye or of the ear, affords the mind some delight, whether sensuous or emotional. This definition, though it may have but a slight value in practice, may serve to point out the extreme limits of artistic invention and of original creation.

Yet this factor in the estimation of art is obviously a very indefinite one. The susceptibilities which we have been enumerating are not constant elements in human nature, but manifest themselves in great varieties of form and intensity, and are developed in a certain order, and according to certain laws. This fact must, it is evident, be recognized in appreciating the qualities of art. The æsthetic value of a poem or of a painting may be viewed in one of two lights. One may regard the work either as relatively and subjectively beautiful, that is to say, as fitted to delight the order of minds for which it is produced, or as absolutely and objectively beautiful, that is to say, as capable of delighting all minds alike. Thus, for example, a painting of Tenniers is relatively beautiful because it appeals to ideas and sentiments familiar to the plain and homely folk for whom the artist worked, objectively beautiful in so far as it embodies traits of character and aspects of human life of permanent interest. Similarly a Pietà of Francia possesses a relative beauty in its power of satisfying the dominant religious emotions of the age, an objective beauty in a universally impressive representation of human suffering and of the affectionate tendance which it customarily calls forth.

Nevertheless it is evident that these two ideas do not, in the same sense, enter into a theory of æsthetics. To fix and define the changing conditions in social feelings and ideas and in æsthetic culture which serve to determine the relative value of any development

of art, is obviously a problem for the historian. Further, so far as the knowledge of these conditions is necessary for wise artistic production, it is clearly a matter of individual observation, insusceptible of being reduced to a permanent expression. In contrast to these, the objective conditions of artistic excellence, valid for all times and for all modes of artistic creation, are a matter for induction and scientific definition. To these conditions, then, we may confine our attention, provided we bear in mind that the rules derivable from them must always be supplemented by a recognition of the dominant influences of the country and of the period.

A little attention to the several æsthetic susceptibilities just enumerated will show that they imply certain approximately universal laws of pleasurable impression. Thus, for example, there appear to be well-ascertained laws of sensuous stimulation, which clearly serve to condition the artistic arrangements of pleasing colours and tones. The discoveries of Helmholtz respecting the nervous antecedents of musical pleasure illustrate the possibility of defining the general organic conditions of æsthetic pleasure. It is highly probable, too, that similar principles control and limit the artistic grouping of colours, although this department of æsthetic sensibility is still, to a large degree, shrouded in obscurity.* It is possible that a good deal might be accomplished in the way of determining the constant element in æsthetic impression by means of objective experiment.† In addition to these more special objective conditions, there are others which appear to apply to all modes of pleasurable effect. In illustration of this fact, I may just allude to the comprehensive mental principle known as the law of change or transition of impression, according to which a continual variation of elements in sensation and emotion is

* The best tentatives hitherto made in this direction are those of Chevreul, Unger, and Brücke. Yet their inquiries do not appear to have led to any very certain results.

† Fechner has attempted to apply experimental methods to the solution of the question respecting the superior pleasurability of the "golden section" among visual forms or proportions. By the golden section is meant a division of a line or of a contour into two such dimensions that the lesser shall be to the greater as this latter to the sum of the two. Fechner's researches are highly interesting; yet by limiting his experiments to a certain number of German adults, he does not appear to have completed the elimination of all the variable influences of association. See his treatise, *Abhandlungen der mathematisch-physischen Classe der königlichen sächischen Gesellschaft der Wissenschaften*, IX. Band, No. vi.: Leipzic, 1871.

requisite in order to clearness and intensity of consciousness. This principle, in its æsthetic aspect, obviously includes the artistic laws of originality or freshness, and of contrast and variety of impression. In addition to these more comprehensive mental principles there are distinct laws of pleasurable effect, such as the doctrine taught by Aristotle, and since confirmed by physiologists and psychologists alike, that pleasure is an accompaniment of a moderate expenditure of nervous energy corresponding to the forces of the system. As a last illustration of principles which appear to have this objective validity and to be connected with uniform facts of organism, I would select the law of emotional harmony, which teaches that all feeling, when once excited, tends to persist in consciousness, so as to control the impressions and ideas of the time.

By help of these constant laws of æsthetic enjoyment, we may add another element to our definition of art. A work of art, for whatever order of mind it may be specially fitted, must satisfy certain general conditions of pleasurable impression.

Yet though there is this amount of the uniform and constant in æsthetic impression, it is obscured by the yet larger amount of the variable. Strictly speaking, no department of æsthetic susceptibility presents a perfectly uniform mode of pleasure. Even organic sensibility is, within certain limits, a variable quantity. Music, in its numerous developments, well illustrates the unequal degrees of the ear's impressibility to tone and harmony. When we pass to the higher and more complex modes of æsthetic gratification, the variations become more conspicuous. Thus, for example, the perception of contrast assumes very unlike forms in different orders of mind. Strong and sudden contrasts of impression, which are pleasing to some minds, may prove positively disagreeable to others. It is unnecessary to illustrate this obvious truth by dwelling on the yet more variable phenomena of the special emotions, such as the pleasures of the ludicrous, on those of imagination, so unequal in force and unlike in quality among different individuals and races, or on those of association governed, as they manifestly are, by widely varying experiences. In all these cases æsthetic impression presents itself as something eminently inconstant and relative. We cannot say that a given object will produce a like pleasing effect on any two minds. Either a given susceptibility, say the feeling for the sublime or the delicate, may be almost entirely wanting, or it may present itself in very unlike modes of action. Thus, the greater part of the influences of art appear, *primâ facie*, to be arbitrary phenomena;

dependent simply on particular developments of emotional capacity, and, consequently, to be quite insusceptible of scientific treatment.

Nevertheless, we are compelled by our definition of art to seek some comparatively fixed objective principle even in this apparent fluctuating and chaotic region of facts. Art demands, in addition to the dimension of extension, a dimension of *intension* or degree. It seeks the highest and best among many possible effects, and it requires for this purpose some clear objective standard of æsthetic value. We need to inquire, therefore, whether there is any available method of measuring the *quantity* of æsthetic pleasure, so as to justify us in ranking certain forms of this delight above others. Is it possible, by a further consideration of the æsthetic susceptibilities to arrive at such a scientific datum of art?

Perhaps the simplest and most obvious method of measuring æsthetic quantity would be that adopted by certain utilitarians in ethical speculations, namely, by reckoning "the greatest happiness of the greatest number." To speak more plainly, one might estimate the quantity and value of an æsthetic gratification by its degree of *universality* and *permanence* in human nature as a whole. While, as we have seen, no one of the capacities of æsthetic enjoyment is, strictly speaking, a constant force, existing in precisely similar form and in equal intensity in every generation and individual, some of them are clearly less variable than others. Thus, to take an example from the most elementary pleasures of sense, susceptibility to the joyous effect of light is probably a far more general factor of the human mind than sensibility to the characteristic influences of the several colours. Similarly, some emotional capacities are both more constant and more uniform in character than others. Thus we find some feelings to be very inconstant, as for example a sentiment for the sea. Others, again, assume highly unlike forms, pre-eminently the sentiment of humour. On the other hand, there present themselves types of sentiment which are in comparison both constant and abiding, such as filial affection and an elegiac feeling for the departed. This being so, one may ask whether such degrees of constancy and variability are not susceptible of a fairly exact measurement, and whether such a measurement would not supply a means of estimating the relative value of the æsthetic pleasures.

That it is possible roughly to determine the variations of degree among these æsthetic susceptibilities, may readily be admitted. These mental capacities are clearly related to forces in the environment, physical and social; and by computing the comparative

stability of these influences, one might arrive at a rough scale of emotional permanence. In this manner, for example, one might reason respecting the general prevalence of a feeling of admiring wonder before the sun, and the comparative infrequency of a sentiment of mingled awe and affection for the sea. The determination of the comparatively uniform types of idea and sentiment, corresponding to constant impressions and experiences, would supply a valuable ingredient of æsthetic theory, namely, a basis for the superior value of the *natural* and the *elementary* in feeling. Just as certain universal mental laws of pleasure supply the necessary conditions of art, so a certain scale of prevalence in the several orders of æsthetic feeling would supply a standard of natural value. It appears to be customarily assumed—for example, in the common estimate of Shakspeare—that one element of a poet's greatness consists in his power of reaching and stirring the more common orders of feeling, the loves and fears, the hopes and joyous fancies which are among the most constant elements of human nature.

By adopting this conception we might still further define the essential qualities of art. A work of art, it may be said, is worthy and great in so far as it answers to widely diffused and permanent emotional needs of the human mind.

At the same time, it is plain that such a standard of estimation is very incomplete and does not help us to appreciate some of the highest qualities of art. As I have already remarked, art is to be controlled by an Ideal, or a desirable end, namely, the highest conceivable quality and quantity of human pleasure; and though it has to consider the susceptibilities which actually exist and have existed, it has, too, to reason on the supposition that these susceptibilities may be indefinitely modified, and to inquire how it may realize the maximum of pure delight out of all the powers of enjoyment which human nature has ever betrayed.

A second method of measurement might be devised which should be founded on the full recognition of this ultimate ideal end. This method would proceed by a more abstract process of reasoning, and would seek to fix a scale of artistic gratification on the supposition, that all the æsthetic susceptibilities may coexist in a maximum intensity in the same individual mind, and so admit of immediate comparison by one conscious subject. In this manner one could, no doubt, reach certain determinations which might be looked on as approximately correct objectively, that is to say, for all minds alike in so far as they may acquire the requisite emotional capacities.

Thus it has been said by Mr. Mill, that all who have had experience both of the elementary and sensuous, and of the more complex and refined pleasures, agree in attributing a superior value to the latter.

In confirmation of such approximately universal judgments, it might be reasoned *à priori* from certain psychological principles, that some orders of pleasure must necessarily transcend others. Waiving the supposition that certain species have a qualitative superiority not resolvable into terms of quantity, and estimating their value simply by their intensity, purity, duration, and susceptibility of frequent renewal, one could distinctly point out reasons for placing some varieties above others in the order of quantitative value. Thus, with respect to the relative worth of sensational and ideal elements in pleasure, it might be argued that even if, in point of intensity, the enjoyment flowing from the immediate stimulation of the senses surpasses any delight *of the same duration* attending the mediate stimulation through the centres, still this latter mode of pleasure more than makes good this disadvantage by its susceptibility of frequent and prolonged renewal, its eminent complexity, and consequently its scope for freshness of impression, not to speak of the additional ingredients of ideal pleasure which are afforded by the play of memory, imagination and so on.

One might, without doubt, by the help of this method, gather principles of pleasurable sensibility which would deserve to be called scientific, and would be eminently fitted to hold a place among the ultimate laws to which æsthetic doctrine must appeal.

According to this method of appreciation, the essential excellence of a work of art would consist in its fitness to afford the highest and purest pleasure to a typical æsthetic nature, equally susceptible of all modes of artistic gratification.

At the same time, the method here indicated, however valuable, suffers from one or two characteristic defects, which seem to disqualify it for being the sole instrument of measuring æsthetic value. The first of these drawbacks arises from the impossibility of determining in any given instance whether the two susceptibilities compared coexist in their full vigour. How can we know, for example, that a man who decides on the superior worth of the intellectual above the sensuous is endowed with the fullest capacity for sensuous enjoyment? Even if it be said that we may get rid of this objection by accumulating a sufficient number of testimonies, all of which agree in according a superior rank to one species, it can still be

urged that until we know the laws of distribution of emotional susceptibility there is nothing to disprove the supposition that all the witnesses are alike deficient in aptitude for the particular mode of delight they agree in disparaging. For example, does there not seem to be a certain force and delicacy of organic sensibility which is wanting in most minds, including even the more cultivated, but which developes itself, in the case of a few at least, at some particular stage of individual growth, producing those exquisite sensations of colour and tone which the more mature mind afterwards seeks in vain to recall, and which in still fewer minds constitutes a main element in a rare and to others incomprehensible poetic sensibility? It is clear that so long as there is any room for doubt on this point we are unable to determine with any precision, what species of æsthetic gratification are capable of yielding the purest and intensest delight.

This element of uncertainty is rendered still more detrimental by the consideration that there is a known incompatibility between certain emotional susceptibilities in great intensity. A wide study of human nature teaches us that a common result of any new development of mental force is the repression, in greater or lesser measure, of some previous capacity. For instance, a large increase in volitional power commonly takes place at the expense of the emotional energies. It seems probable, too, that a multiplication of emotional capacities has a certain effect in diminishing their strength. Thus one may argue, with a certain show of reason, that the few limited enjoyments of the primitive and uneducated mind are intenser than the many and various enjoyments of the cultivated mind; for in the latter case a given volume of nervous energy has to be spread over a larger area.* In addition to this wider law—which has been pointed out as the mental side of the principle of the Conservation of Force—there is the narrower principle that many of the emotional susceptibilities are to some extent mutually exclusive, a high degree of one necessarily enfeebling the other. This may happen whenever the two orders of feeling are so far heterogeneous as not to be easily susceptible of simultaneous revival. If, when this is the case, either of the sus-

* It is obvious that this reasoning is based on the assumption that the whole amount of nervous energy underlying the individual mind is a constant quantity. It may be well to add that evolution tends to increase this quantity, so that the difference between the intensities of the vulgar and refined pleasures is not so great as I have assumed in the text.

ceptibilities reaches a certain superiority of strength, it may, by passing into something like a permanent appetite, starve out, so to speak, the other emotional capacity. And indeed, even when there is no positive discordance between the two classes of feeling, yet the great persistence of one of the susceptibilities may render any gratification of the less intense æsthetic need, which does not at the same time satisfy the former, poor and incomplete. An example of this opposition may be seen in the two orders of sympathetic and purely personal pleasure. When the thirst of a mind for a sympathetic participation in its enjoyments attains a certain force and persistence it tends to limit the satisfaction derivable from isolated individual pleasure. This principle, which I may call the law of emotional monopoly or tyranny, is obviously limited. The most considerable of these limits is supplied by the opposite principle of relief and contrast, according to which change of feeling is in itself a condition of emotional intensity. With respect to proper æsthetic gratifications, the action of this law may be illustrated in the antagonism which exists between the cruder enjoyments of an uncultivated, and the refined delights of a cultivated taste. An æsthetically cultivated person retains something of the primitive sensibility to brilliant colour which the savage or the village maid displays in its intensity; only in his case, other and more complex emotional needs have become so keen and vigilant as to give to any mode of gratification which disappoints them an aspect of incompleteness. Other striking examples of such a comparative extinction of an old sensibility by a new development may be found in the dissatisfaction of a thoughtful mind at the effect of the popular sensational drama, and at a coarse and too obvious kind of humour, which dissatisfaction arises from the superior force and persistence of the intellectual needs.

These last remarks naturally conduct us to the third available method for measuring æsthetic value. The first, though an important one, was shown to be too narrow, too empirical, the actual distribution of emotional capacity in the past being no standard for an ideal art. The second mode, again, though undoubtedly proceeding in the direction of an ultimate criterion, has proved to be too abstract, there being no instances of the coexistence of the several æsthetic susceptibilities in their perfection. The third method, to the consideration of which we are now about to pass, falls, in order of concreteness, midway between the other two, and seeks to conjoin in itself both the directions which they represent.

It investigates both what has been, and what might and ought to be; and it does this by inquiring into the permanent tendencies of development in culture, in the individual, in the nation, and in the race as a whole. That is to say, it asks according to what laws æsthetic progress, looked on as a part of mental progress in general, takes place. Overlooking all that is fitful, variable and transient in the successive phases of individual and national taste, it will seek to detect and formulate those large and abiding tendencies which are discoverable in the advance of culture as a whole. Thus it aims at defining the general laws of emotional development, the nature of the transformation which the several capacities involved in æsthetic appreciation undergo, the orders of idea and sentiment which appear destined to persist and to survive the others, and so on.

It will at once be seen that this third method is by no means antagonistic to the other two, but rather absorbs them into itself. With respect to the first, it clearly gives a definite direction to the problem. Instead of regarding all variations of æsthetic feeling as something hap-hazard, or at least inexplicable, and contenting itself simply with calculating the areas they severally occupy, this method aims at bringing the most important of such variations under a general law of progress. That is to say, it seeks to determine not the actual order of predominance of the several feelings in the past and present, but their tendency to a certain order of predominance with the onward movement of the human race.

With respect to the second method, again, this conception of a tendency in æsthetic development furnishes a concrete basis for a final ideal of the most perfect æsthetic delight. In doing this, it makes one or two important assumptions which will scarcely be regarded as unwarranted. It takes for granted that there is a certain discoverable order of progress in all successive developments of mental life, and further, that this movement is clearly in the direction of a more copious and various capacity for all pleasure, æsthetic enjoyments included. With respect to the first assumption there is little difficulty. Any one who recognizes the progressive growth of the human mind from its primitive to its most highly cultivated stage, can hardly question the existence of a definite law of mental expansion; and the high probability of the evolution theory still further justifies one in asserting the reality of such a law. With respect to the second postulate, namely, that this progress is in the direction of a total increase of pleasure, there seems at first sight considerable difficulty. As I have before

remarked, it appears to be inferrible that mental development involves a certain loss of pleasurable capacity. Is it too fanciful to conceive that the exquisite sensibility to colour which Mr. Darwin has attributed to birds, includes a susceptibility of delight scarcely equalled by any single momentary enjoyment of the cultivated human mind? According to the principle of the conservation of energy, it seems probable, as we have seen, that the few gratifications of a raw uneducated boor are, as individual and momentary pleasures, intenser than any of the delights of a cultivated scholar. Hence it may be asked how we can be certain that the development of mental faculty is accompanied with a total increase of enjoyment.

It would ill become me to seek to argue exhaustively the complicated and oft-discussed question of optimism and pessimism. Fortunately for our present object, the assumption here adopted does not involve this delicate point. It matters not for us whether or not the progress of life multiplies our pains in the same ratio in which it multiplies our pleasures. If it can only be shown that it multiplies our pleasures, art, whose object is pure pleasure, will derive all the advantage.

Now it is sufficiently evident that mental development is attended by a vast increase in the *number* of pleasures. Indeed, the very idea of development, involving an increase in the number of faculties, involves also an increase in the number of the pleasurable susceptibilities which are the concomitants of the several faculties, intellectual and moral. This fact becomes manifest upon the most superficial comparison of two minds respectively low and high in the scale of culture. Whereas a savage experiences only a few transitory delights of great intensity, interspersed among long and dreary tracts of emotional quiescence and indifference, a cultivated European experiences numberless delights, of less intensity individually, yet diffused over the whole area of conscious life.

It is but another side of the same truth, that the gratifications of a highly developed mind infinitely transcend those of a primitive mind in their *variety*. Not only are the enjoyments of a child or of a savage limited to certain brief and rare periods, namely, those in which the few organic wants and emotional needs make themselves felt, but they are further limited by the fact of their uniformity. That is to say, being so few they cannot be extended through long periods without producing the sense of monotony. On the other hand, the great variety of distinct pleasurable elements possessed by

a mind of high culture implies a capacity for extended and oft-repeated enjoyment.*

Now whatever difference of degree there may be between the most intense pleasures of a savage or of a rustic swain, and the most intense pleasures of an artistically cultivated man, one may reasonably conclude from the considerations just urged, that the net result of mental development and culture is an immense increase in the quantity of pure enjoyment. And this conclusion is sufficient for our present purposes. If the great movement of evolution is a fact, it seems a reasonable course to work harmoniously with it, rather than to seek vainly to counteract it. Whether men are or are not the happier for greater knowledge and emotional susceptibility, they are apparently being carried on towards these attainments. Art, if it cares anything about a permanent value, would certainly have to recognize the tendency of progress, even though this were seen to be transporting us from the region of the highest delight. How much more will it need to recognize this tendency if it be shown to be in the direction of a fuller, more various, and more enduring pleasure! Æsthetic science seeks in vain to construct a perfect æsthetic type of nature, containing potentially every mode of delight in its highest intensity. It may seek to good purpose to discover what type of æsthetic nature the progress of mental evolution appears to be bringing nearer and nearer to view.

Assuming, then, that progress in æsthetic culture, regarded as a part of mental development as a whole, is in the direction of a higher delight, we have to determine the essential characters of this progress. Excluding from view, as far as possible, all that is variable and accidental in human development, and confining our attention to its large and permanent movements of progress, we have to ask in what manner, and according to what laws, the mental energies involved in the several æsthetic susceptibilities undergo transformation.

The estimation of the æsthetic value of a pleasure by a reference to its place in the line of development, has recently been attempted by

* This holds good even of the pleasures of novelty, which at first sight seem to be curtailed by the advance of knowledge. Omitting any reference to the painful element of dread before the unknown, we may say that a cultivated mind experiences the sense of novelty in less intense forms, but far more frequently, than an uncultivated; for its increase of knowledge opens up a larger and larger region of conceivable novelties, and also tends to develope the observing powers, the activity of which is one condition of a fresh impression.

Mr. Spencer.* He considers that the "height" of an æsthetic feeling may be measured by one of two standards, which, in the largest number of cases, give the same result. The highest æsthetic pleasure is, under the first aspect, that which is due to a pleasureable activity of the greatest number of mental powers; under the second aspect, that which arises from a grateful exercise of the most complex emotional faculty. That is to say, an æsthetic enjoyment is to be ranked as high when it is voluminous, composed of many distinct gratifications, and when it involves a great degree of the representative and ideal, as distinguished from the immediate and sensuous. According to this double method of estimation, Mr. Spencer arranges the æsthetic pleasures in the following hierarchy. The lowest are the pleasures of simple sensation, namely, those of single colours and tones. Next to these are the gratifications which attend more or less complex perceptions, such as the pleasures of combined forms, and melodic sequences. The highest place is filled by the pleasures of æsthetic sentiments, strictly so called, which contain no presentative elements: namely, the highly composite and ideal feelings indirectly called up by landscape, musical tones, etc.

This conception (the consequences of which Mr. Spencer has only very faintly indicated), seems to be pregnant with fruitful results for the science of art. In the following suggestions I shall adopt in a modified form the principles Mr. Spencer here lays down.

The development of æsthetic susceptibility may be regarded, under one of its principal aspects, as a concomitant of intellectual culture. Emotional activity is of course a perfectly different thing from intellectual; and under another of its aspects, that of intensity, seems rather to be opposed to, than to be assisted by, the development of the intellectual energies. Yet all progress of feeling towards refinement consists in the action of mental forces which are at the very root of intellect. Hence, in studying the successive transformations of the æsthetic susceptibilities from their crudest to their most refined forms, we may conveniently regard these processes as conditioned by the development of intellectual quality.

Adopting this view of emotional progress, we may remark, first of all, that the æsthetic feelings grow in number, subtlety and variety, that is, become more refined and frequent enjoyments, *pari passu* with the development of the Discriminative and the Assimilative functions. In the second place, it may be observed that these

* *Principles of Psychology*, Vol. ii., p. 643, et seq.

feelings grow in range or amplitude with the development of the Retentive power of the mind, that is to say, its capability of ideal aggregation and of ideal revival.

In the first place, in proportion as the mind is capable of finely distinguishing between different impressions and ideas, and of clearly noting their points of resemblance, its æsthetic enjoyments are multiplied. This proposition seems to be too obvious to need anything like distinct proof. Every additional attainment in the discrimination of pleasurable qualities clearly opens up a new possibility of enjoyment. Further, this multiplication of pleasurable impressions involves an increase in the variety of pleasurable feelings produced. In other words, a fine recognition of æsthetic quality necessitates the development of new elements of emotional susceptibility.

This truth may be illustrated throughout the several varieties of æsthetic pleasure. For instance, the increase in number and variety of sensuous gratifications, those of light, colour and tone, involves an addition of discriminative and assimilative power. The artist's eye notes myriads of points of diversity and of resemblance among visual forms and shades of tint which wholly escape the attention of ordinary men. Few persons reflect, perhaps, what an exquisite delicacy of sensuous discrimination and assimilation is involved in the appreciation of perfect purity of colour. Similarly, with respect to the perception of pleasing combinations of impressions. It is obvious, indeed, that the perceptions of unity and of variety rest immediately on these intellectual activities. As the sense of difference and of likeness grows more acute and certain, the scope for the discovery of subtle shades of unity and contrast becomes vastly enlarged, and in this way the mind acquires the capability of appreciating the numerous phases of the like and the various which mark such a complicated artistic creation as a symphony of Beethoven, a colossal yet well-proportioned fresco of Michael Angelo, or a harmoniously tinted picture of Tizian. Finally, the same thing may be observed in the growth of the emotional ingredients in æsthetic feeling. The enjoyments which accompany the impulses of admiration and laughter, the sentiment of sublimity and so on, obviously become more numerous as the discriminating and recognizing power increases in delicacy and force. The poet finds shades of the admirable and beautiful where the uncultivated person fails to find them, just because the emotional vision of the former is finer and more discriminating. Similarly, a highly humorous mind is able to detect

so many ludicrous aspects in things because its peculiar emotional susceptibility has grown in discriminating and assimilating power.

It follows from this that the higher æsthetic appreciation is always a process of some delicacy. Pleasurable qualities which obtrude themselves on the observer's attention cannot afford a cultivated mind any appreciable delight. An essential ingredient in the more refined enjoyments of the beautiful, the ludicrous, etc., is the exercise of a certain intellectual activity. This mode of delight is the result of an extended activity of mind in discovering what is hidden, and in distinguishing elements which are closely interwoven.

In the second place, we may consider the development of æsthetic susceptibility as a progress towards depth and range of feeling, as determined by the quantity of its ideal or mediate elements. This corresponds pretty nearly to Mr. Spencer's second standard of æsthetic height, namely, the "complexity" of the emotion exercised. It is obvious that the growth of an æsthetic sensibility in delicacy implies an increase of complexity of enjoyment. As sensational and emotional appreciation increases in discriminating and assimilating power, the mind becomes susceptible of æsthetic enjoyment from larger and more complex objects. An extensive work of art, such as an epic poem or an elaborate opera, supplies a highly complex emotional delight through a vast number of distinct appreciations of pleasurable quality. Further, in so far as the total pleasure results from a comparison of the several parts of a complex object, it involves a certain degree of retentive power and facility of ideal revival. We have now to pass to another aspect of emotional complexity, which depends on the compass or range of the mind's retentive and reproductive power, that is to say, the quality of an æsthetic sentiment as determined by the number and variety of its ideal ingredients. A feeling clearly gains in depth and in range when it involves, in addition to a few confined effects of direct stimulation, a large number of indirect and associated effects. Although each separate pulsation in this ideal agitation is fainter than a direct sensuous impression, yet extended and complex aggregates of these ideal feelings constitute volumes of pleasurable consciousness, with which the limited effects of sensation are incommensurable.

The influence of the growth of this retentive power on æsthetic pleasure may be illustrated throughout the several classes of susceptibilities. It is highly probable, as Mr. Spencer says, that even the sensuous ingredients of æsthetic pleasure owe some part of their

effect to numerous vague associations. It is obvious, moreover, that the higher and more complex preceptions involve distinct elements of memory. Thus, for example, in the appreciation of typical beauty, the mind has to recall, faintly at least, innumerable individual instances of the pleasing qualities represented. In the complex emotions called forth by a work of art, the action of memory is still more conspicuous. A landscape-painting, or a lyric poem produces its effect on the mind by means of a faint revival of numberless pulsations of emotion which have become associated with certain visible colours and scenes, or with certain tones and cadences, and forms of language. With respect to all these regions of feeling, one may see that advance in knowledge and mental culture, by adding to the number and range of the remembered or representative elements, extends the area of æsthetic enjoyment. Complex and refined æsthetic enjoyments are distinguished from simple and crude ones by being less concentrated, more extended over the mental area, and consequently, of a longer duration.

This increase of retentive power produces two effects on æsthetic pleasure which deserve special consideration. I refer to the enlarged scope afforded for emotional Comprehension and for vivid Imagination. The proper enjoyment of a work of art depends partly, of course, on purely intellectual qualities. Also it involves as we have seen, a high degree of that refinement of feeling of which we have been speaking. In addition to this, it is limited by the number and variety of ideal or representative feelings potentially contained in the mind. With the progress of culture, a sensuous sign, such as a colour or a verbal sound, acquires an expanded emotional meaning, suggesting ideal forms of pleasurable feeling, to which the uncultivated mind is a stranger. Hence, the artist is able with a given material to convey a vastly larger number of distinct pleasurable ideas. In all the higher æsthetic enjoyments, notably those of poetry, this rapid and extended emotional inference is very conspicuous. For example, the pleasures flowing from a sympathetic reading of another's feelings involve a high degree of this emotional inference, being the results of numerous and rapid revivals of pleasurable idea corresponding to our own past experiences, and possibly to those of our progenitors.

The influence of the growth of the mind's retentive power on the Imaginative ingredients of æsthetic pleasure is scarcely less important than that which we have just considered. The uncultivated mind, owing to the paucity of its ideas, remains in a blank, wonder-

ing stupor before the vast majority of natural phenomena. Culture by multiplying our recollections, increases our conceptive power, and enables us to imagine unbounded regions of possible existence and experience, where only a slender thread of certainty is attainable. Accordingly, the accumulation of ideas vastly enlarges the region of pleasurable imaginative activity. Out of its numerous emotional experiences a cultivated mind is able to fill up the most vaguely suggested regions with multitudes of grateful ideas; and this effect, like that of emotional comprehension, is one chief element in the pleasures of all the higher forms of art. The dim and vast, the hidden and remote, whether suggested in visible space or in the invisible regions of another's mind, have a peculiar value for a mind well stored with pleasurable conceptions. In this manner, a high degree of mental development, by producing a vast increase of imaginative activity, serves to widen the area of æsthetic delight, surrounding every mode of clear, pleasurable perception with an additional semi-luminous zone of pleasurable fancy.*

By help of these two criteria of feeling, namely, its degree of refinement and its depth or complexity, one could, perhaps, construct a hierarchy of the æsthetic pleasures. In the main, these two standards would afford the same result. It is obvious that the multiplication of distinct emotional elements by means of the discriminative and assimilative activities, supplies the materials for more extended groups of revived ideal feelings. At the same time, the influence of these two conditions would need to be estimated separately. Thus, for example, the growth of refinement may go on in the case of purely sensuous gratifications without any appreciable increase in the range of ideal feelings revived.

In constructing this hierarchy, one would need, first of all, to classify the several known forms of each order of æsthetic susceptibility in separate and less comprehensive scales, and secondly, to arrange the whole of these orders themselves in one comprehensive scale. The first of these series would be mainly determined by the degree

* It may be remarked that this conception of the highest type of æsthetic enjoyment corresponds in a certain measure to a definition of the beautiful proposed by Hemsterhuis. "Beauty," he says, "is that which affords us the greatest number of ideas in the shortest time." Culture tends to increase the number of pleasurable ideas both by differentiation and by aggregation. Hemsterhuis seems to be right in emphasizing the *number* of elements in the higher æsthetic appreciation, but wrong in supposing that the mere *intellectual* activity is the cause of the pleasure.

of refinement, the second, by the degree of complexity. Thus, for example, one might define approximately the highest type of sensibility to colour, as that which is capable of the largest number of distinct appreciations. On the other hand, one would place highest in the comprehensive scale of æsthetic susceptibilities those sentiments which are built up of the largest number of ideal elements.

In connection with this attempt to group æsthetic pleasures according to an ideal standard, it would be desirable to show that many of the higher and more complex susceptibilities tend to acquire the character of permanent æsthetic appetites, so that no object can seem to possess a high degree of beauty which does not directly satisfy them. It should be remembered that the susceptibility of an emotion of frequent gratification depends, in a large degree, on the number and variety of its elements. Hence, the more highly differentiated and the more widely aggregated a feeling, the greater its recurring power. As an example of such emotional predominance, the reader may take the sympathetic sensibilities, which tend more and more, with the progress of moral and intellectual, as well as of æsthetic culture, to become an essential ingredient in all æsthetic appreciation, only those objects appearing beautiful which minister, whether directly or indirectly, a common harmonious delight. Thus, as culture advances, one finds that such indirectly personal enjoyments as are afforded by the sight of a prize ox or even of a splendid heap of game take a lower and lower place in the æsthetic class.

By this route, then, one might hope to arrive at another and more precise standard of artistic value. According to this conception, a work of art is to be ranked as of a high quality when its several features correspond to sentiments which are refined and complex, which involve a large number of distinct intellectual and emotional activities, and which are the product of numberless, far-reaching, and oft-repeated emotional influences. It may be well to add, however, that this criterion of æsthetic value must always be supplemented by that which is supplied by permanence and universality. A style of art which aims uniformly and exclusively at gratifying the most refined elements of taste and at awakening the most complex sentiments would, no doubt, rank very high; yet it would be lacking in the valuable qualities of simplicity and natural force. Such emotions as the joyous elation which is begotten of morning light, dewy air, and odorous field, or the pulsations of tender affection excited by beautiful youth, have a high æsthetic value as old, widely-diffused, and permanent attributes of

human nature. Moreover, these simple and universal feelings have an intensity, if not a volume, greatly superior to that of the more elaborate sentiments. Hence a due admixture of these primitive and universal gratifications has always been recognized as a valuable ingredient in art. The tendency of refinement of feeling is to produce the thin and meagre enjoyment of a fastidious taste; and this loss should be compensated for, as much as possible, by the retention of those more elementary sensibilities, the satisfaction of which has a peculiar intensity of its own.

Thus we appear to have gathered materials for a fairly complete definition of art. A work is artistic which, through impressions of the eye or of the ear, gratifies some pleasurable susceptibility, and satisfies some universal laws of pleasurable impression; highly artistic, when it affords a large number of such pleasurable impressions, further, when these feelings are either permanent emotional needs of the human heart, or refined and complex products of mental development.

Such, then, is our first rough estimate of the objective value of art. It may, perhaps, be objected that this conception has no practical worth, since each successive development of art concerns itself, not with the tendencies of things in the past or future, but with the actual needs of the present, or at most, of the proximate generation. To this it may be answered that the mode of measuring pleasure thus faintly outlined is only intended to be an ultimate principle, a final appeal in all questions of æsthetic value. The artist must of course be guided also by considerations of relative and subjective value; that is to say, he will have to study what orders of feeling and idea make up the artistic temperament of his nation, and the reigning spirit of the age. Nevertheless, the recognition of such a final standard of worth will be a great immediate assistance even to the productive artist. For has not every artist, whether poet, painter, or musical composer, to confront a vast array of conflicting tastes even among his countrymen? and how is he to select the most worthy of existing sentiments without some such ideal measure? Moreover, it may be said that even if the artist does not labour for posterity — which would not necessarily be irrational—he can at least try to modify existing taste in the best possible manner, so as to enlarge the area of the highest and purest mode of delight. Thus, while a study of the relative conditions of art is undoubtedly valuable to the artist, that of the absolute and permanent conditions is of a far higher value.

In the preceding suggestions we have concerned ourselves only with the first part of æsthetic theory, namely, that which discusses the fund of natural emotional susceptibility, from which all art must draw its treasure. These capacities have been regarded as existing, to some extent, independently of art, being nurtured largely by natural objects, including our fellow-beings, though dependent in their highest forms on the discipline of art. A very brief glance may now be taken at the second great branch of æsthetics, that which deals with artistic effect as something distinct from natural pleasure, that is, as a higher transformation of it through certain inherent capabilities of art itself. In other words, art has been spoken of hitherto as though it were simply a number of gratifications supplied by natural objects, re-shuffled, so to speak, in new ways, like a heap of coloured fragments of glass, which are capable only of being recombined by a single manual impulse. Now we shall have to regard it as a transformation of these natural elements by processes distinctly artistic, and akin to the action of the kaleidoscope, which, besides re-shuffling a definite number of colours, arranges them in a symmetrical order.

By means, again, of a careful review of the history of the Fine Arts from their earliest germs, one might ascertain the elements of artistic transformation, as they become conspicuous with the growth of art. Without attempting here a complete analysis of these properties, it may be said roughly, that they appear to fall into two main groups: (1) qualities of art due to its renewal of a pre-artistic pleasure; (2) qualities of art involved in its spontaneity, and in its independence of the limited and fixed arrangements of nature.

First of all, then, art may be viewed as a restoration by human device of a natural delight. Since this delight was originally given by some natural object, whether through the eye or through the ear, the simplest mode of restoring an absent effect would seem to be the imitative reproduction of the pleasing object. Accordingly, one finds in the crudest stages of childish and savage art this element of imitation as a conspicuous source of artistic effect; further, all thinkers upon art, from Aristotle downwards, have recognized in this faculty of μίμησις one chief, if not essential, attribute of artistic production.

The briefest reflection on the nature of artistic imitation shows, however, that it takes its rise in many springs of human impulse, some of which are quite independent of proper artistic intention.

Thus, there is the impulse of mimicry in general, which shows itself in the young child, who appears instinctively to echo any new sound. Then, too, one finds that the human mind, in its primitive stages, takes pleasure in detecting resemblances between things, especially when the similarity presents itself in an exact reproduction of a familiar reality on a greatly altered scale. This pleasure is sometimes afforded by a natural object, as in the odd semblances discoverable by the untutored mind of child or savage in tree or stone. In play, too, which throws so much light on æsthetic pleasure, one may observe this source of gratification. The supreme delight of children appears to be found in all kinds of tiny mimicry; and the whole world of toys, as dolls and machines, together with such pastimes as puppet-show and magic-lantern, owe a chief part of their mysterious delight to lively discernments of the reality which the image bodies forth. Who has not preserved some faint echoes of that joyous wonderment which was ministered to his early childhood by mysterious puppet-shows, like those so graphically described by Goethe in the *Wilhelm Meister* and the *Dichtung und Wahrheit?* One may recall similar feelings awakened by clever imitations of natural sounds, such as the feats of the ventriloquist.

A complete account of artistic imitation would have to trace its gradual progress from these simple *naïve* enjoyments to the highest conscious appreciations of artistic truth. It would have to point out all the stages of belief, from the first deluded acceptance of a fiction for a reality, to that semi-credulous state—that playful condition of a vivid fancy—in which one ordinarily peruses a good story, or loses himself in a suggestive landscape painting, and to show the great transformation of the first primitive delight in semblance which this progress involves. First of all, there would come the crudest stages of *artifice* as opposed to *art* in its higher forms, illustrated in the effects of wax-work and in the clever tricks of the Athenian painters Zeuxis and his rivals, where a perfect visible or audible semblance is produced, which momentarily wins an unhesitating belief. Secondly, there would follow the less delusive and more artistic imitations, not of a whole object, but of certain of its aspects or relations. This might be traced in direct sensuous impressions, such as those of sculpture and painting, where certain elements of the immediate reality, namely, the arrangements of colour and visible outline, are accurately preserved, and also in music so far as the sequence of tones distinctly reproduces vocal utterance or other natural sounds. Also, it would be seen illus-

trated in poetry, in the wholly indirect representation, by means of the associations of language, of a natural order of events, whether in external nature or in the conscious mind. The most highly intellectualized transformations of imitation would be found in the study and reproduction of everything *essential* in nature, in the attempt to realize nature, not as a group of detached fragments, but as an organic whole. This would be seen to include two varieties of artistic perception, the sense of the universal or the typical, as, for example, in the best ideal representations of the physical and moral aspects of man, and the recognition of the distinguishing and individualizing characteristics of objects, whether animate or inanimate. This transformation of early childish mimicry into a large intellectual grasp of nature in her remote resemblances and fine diversities, might perhaps be regarded as the loftiest intellectual attainment in the progress of æsthetic culture.

The highest æsthetic function and value of artistic imitation might probably be determined by a careful study of the tendencies it has actually betrayed in the history of art, verified by a consideration of the progress of human nature as a whole. One would, perhaps, in this way discover its essential quality to be the representation of a distant reality in sufficient fulness and vividness to awaken a warm glow of the delight which the beautiful original itself would stimulate, in a degree of complexity fitted to afford an ample enjoyment through the recognition of a many-sided resemblance, and yet with an amount of abstraction and transformation sufficient to convert all impulses to believe in a present reality into the playful moods of fancy.

This view of imitation obviously subordinates it to the one great end of art, a refined and enduring pleasure. The supposition that the highest aim of art is truth to nature is very much akin in its logical genesis to that other supposition that all natural beauty typifies some mysterious entity, of which it is but a semblance or dim revelation. Because many objects are beautiful through their dim suggestions of past or possible delight, it has been maintained that it must be of the essence of beauty to suggest realities above all experience. Similarly, because much of art can only effect its high delight by a scrupulous fidelity to certain aspects of nature, it has been argued that it is the final law of art, as of science, to reconstruct nature.

By recognizing imitation as a great means for attaining æsthetic pleasure, the question of its precise æsthetic value and its necessity

as an attribute of the several arts becomes susceptible of solution. The most superficial student of art must be aware how very unequally imitation enters into the several arts, as for example, into painting and into instrumental music. And yet æstheticians, in their love of simplicity, have persisted in forcing all forms of art under this one conception. The question, how far imitation is an essential element of art, can be answered by a review of art itself, and also by a reference to those subordinations and supremacies among the several æsthetic susceptibilities which culture tends to bring about. Since imitation owes its æsthetic value to its pleasurable results, one may measure it approximately by comparing it with the other kinds of pleasure which are attainable without it, more especially with those higher æsthetic gratifications which are incompatible with it. Hence, a brief reference to these must precede any attempt to fix the æsthetic altitude of this much extolled artistic quality.

The earliest forms of art afford us examples of the Imaginative or Creative, as well as of the Imitative, function of the artistic mind. Indeed, it seems as if, in those stages, spontaneous fancy were very far in advance of the observation of nature in artistic effort. Children's stories, crude savage myths are, under one of their aspects, among the first instances of artistic products. Just as there is this non-natural element in the infancy of art, so it may be found persisting and undergoing numerous transformations throughout the progress of the arts. At the same time, a growing sense of beauty and of artistic quality in objects gradually suggests and prompts a new selective treatment of natural phenomena themselves, by means of which all that is most lovely and impressive in the actual world, material and spiritual, is brought home to the mind in greater purity and with deeper force.

The genesis of Artistic Selection, its range and limitations, would constitute one interesting department of æsthetics. Employing the basis of certain natural æsthetic susceptibilities in the human mind, one might, perhaps, consider selection under a threefold aspect. First of all, in Nature the pleasurable is often attended with more or less of disagreeable accompaniments, and the first and simplest duty of a selective Art seems to be to purify the metal of beauty from all attendant dross. This side of art would have to be traced through all forms of artistic abstraction, such as the representation of pure visible form in drawing and sculpture, and pure even tone in music, and also through the many artistic devices by which all that is painful is partially suppressed and softened, even where

for the sake of truth it cannot be completely eliminated. Secondly, art seeks to realize a large quantity of pleasure, that is, to select the highest degrees of æsthetic gratification, whether sensuous, emotional or intellectual, and to combine as many distinct gratifications as possible in every great work. This side of artistic activity, too, could be traced as slowly emerging and assuming large proportions with the gradual evolution of the arts. Finally the selective process in art might be shown to be a quest of harmony, a progressive tentative combination of the various æsthetic impressions with the view of discovering their most perfect affinities. A comparison of the crude and harsh juxtapositions of undisciplined painting with the careful subordination of detail to a central idea or emotion in a modern *chef d'œuvre*, may serve to indicate how the law of harmony has gradually risen to be the supreme principle of artistic production. In the omission of all incongruous details, in the accentuation of the leading thought or reigning mood of a work, in the skilful employment of the more discordant ingredients as means of relief and contrast, one may follow the gradual growth of this artistic power.

With respect to the distinctly new elements in artistic creation, whether in simple impressions or in their constructive re-arrangements, one might trace the growth of imagination from the untamed, frolicsome impulse of the child or savage up to the subtle and penetrating vision of the disciplined artist. The greater power of dealing abstractly with simple qualities, the clearer recognition of all that is æsthetically precious in nature, and worthy of ideal elevation to a form and intensity not furnished by actual human life, the greater reach of intellect in constructive combination—these are some of the aspects of creative art, the development of which might be traced in the history of the best workmanship.

After a careful and impartial study of each of these sides of art, the imitative and the creative, one could hardly avoid the conclusion that the best art has been a resultant of these more or less conflicting forces. The whole history of the arts exhibits, indeed, each aim steadily pursued under varying forms. We cannot say that the progress of art as a whole has been from imitation to free creation, or *vice versâ*. We can only say that imitation has been striving to enlarge its powers while imaginative creation has laboured *pari passu* to realize a higher measure of unknown yet conceivable delight. No simple and universal principle of ascendency can therefore be arrived at. So much may perhaps be said. The

claims of fidelity to nature and of spontaneity of conception do not press with equal force in every species and sub-species of art. There are varieties of art, as, for example, landscape painting, where truth of the most minute and exquisite kind is of the highest importance, and there are others, for instance, the more abstract order of sculpture, and in a far higher degree, modern instrumental music, where a lofty degree of ideal beauty is the reigning law. The fact seems to be that in appreciating a work of art as a representation of a reality, and in yielding itself to the fascination of an immediate beauty, the mind assumes conditions of feeling which are very dissimilar. Accordingly, when the observer recognizes that the work before him aims pre-eminently at truth to nature, he is far less ready to indulge in the free flights of imagination, whereas if the object appeals most powerfully to a lively fancy, as is the case with much of the lighter comedy and with mythical romance, he ceases to look for rigid conformity to familiar fact. This psychological truth appears to justify that wide difference, with respect to the degree of imitative truth, which the several arts present.

In connection with this double aspect of art, it would be desirable to examine the qualities of mind which enter into artistic Genius. The greatness of an artistic mind may be measured either relatively, that is, by a reference to the general standard of thought and sentiment, and to pre-existing artistic ideas, or objectively, that is, in relation to the highest attainable power. This objective side of genius would have to be considered under its various aspects, as involving a wide knowledge of the susceptibilities of human nature, a far-reaching insight into the beautiful and impressive aspects of nature, a vigorous imaginative power, and so on. Such a line of inquiry would lead one to several interesting questions. Thus for example, one might ask what is the precise relation between the personal or direct, and the sympathetic or indirect elements in artistic feeling, as embodied more especially in the eminently subjective art of lyric poetry.

By help of these essentially *artistic* qualities of art one would be able to add to the fulness and precision of the foregoing definitions of art. Under its imitative aspect, art has, as its function, to reproduce, not in actuality but in semblance, some pleasing or impressive object in nature. Its imitative character is high according as the reproduction is exact in detail and comprehensive in scope. Under its spontaneous or creative aspect, art is concerned with the selection of the highest pleasurable qualities of natural objects, the removal of

all painful accompaniments, the ideal intensification of the most delightful and worthy. Its creative character is high when this purification and intensification of the pleasurable is elaborate and extended.

The justness and value of these conceptions respecting the aims and conditions of art would require to be tested by means of the best recognized canons of art. It is obvious that any theory of the arts which pretends to a scientific value must contain a basis for adequate artistic rules. All worthy production requires some such guidance—needs, that is, to recognize some fixed and abiding laws of artistic value. That the theory here roughly set forth is capable of supplying such dicta, has been already suggested. I will merely add one or two definite examples of these derivative canons.

All art has to realize a large quantity of pure delight. Now a universal condition of pleasure is change and variation of impression. Hence every work of art must contain some element of freshness, invention, or originality. Again, it follows that every worthy work of art must have a certain magnitude. The universal laws of human sensibility and thought require that such parts should be varied, and yet appear to be united by certain laws of uniformity, proportion, etc. Here we have rules of art which repose on universal conditions of pleasure. The delight which accompanies the æsthetic appreciation of unity in variety increases in proportion to the number and complexity of the diversified parts, and to the subtlety of the thread of resemblance. The comprehension of all the aspects of order and beauty in a Greek temple or in an orchestral symphony, involves a far larger amount of pleasure than the comprehension of such a simple and perfectly regular order as is supplied by a series of equal columns, or by a melody moving through a uniform progress of time. Hence the more complex a work of art, and the more exquisitely delicate its shades of harmony, the greater its æsthetic value. Here we have a canon of art which rests on the principle of æsthetic height. Another measure of value follows directly from our conception of the subtlety and discriminative delicacy of the higher modes of æsthetic feeling. In order that a work of art may afford a high and worthy style of enjoyment, it must present many fine shades of impression and emotional suggestion, its pleasurable effect must not be too obtrusive but gradually disclose itself to a discerning and penetrating emotional appreciation. Again, the need of a certain subordination of the impressions and ideas of a work of art to a ruling sentiment, whether that of quiet beauty, of the sublime, of

the pathetic, or of the ludicrous, may be seen to follow from a general law of human feeling. Moreover, rules respecting the highest forms of this artistic harmony would be determined by the criterion of development. In like manner rules respecting the necessity and the highest quality of artistic imitation and of spontaneous creation, might be seen to follow from certain universal mental conditions of delight, and from the order of development manifested by the feelings which correspond to these qualities of art. In all these cases, a consideration of the capabilities of a work of art, of the number of pleasurable qualities which it is able to realize, and of their order of æsthetic value, and finally of the most perfect mode of combining these, may enable one to arrive at something like definite and fixed rules for artistic practice.

At the same time, it is evident that all such rules should be constructed in full recognition of the limits of æsthetic principles, and of the range of the variable and individual in æsthetic judgment.

After the nature and principles of art as a whole had thus been determined, it would be necessary to apply these conceptions to each particular art, so as to give the fullest and clearest notion of its precise æsthetic function and status. In connection with this part of the problem, it would be desirable to classify the arts in the best way possible, with a view of determining their respective places in a hierarchy of value. This line of inquiry would involve the consideration of differences among the sensuous media employed by the several arts, and among their general principles of technical procedure, so far as these rest, not on physical processes, but on universal conditions of our sensibility. This part of the inquiry would involve a consideration of the question—so ably defined by Lessing—as to the effect on artistic principles of the contrast of the Simultaneous and Successive among impressions of sight and hearing. That these peculiarities have a marked influence on the total effect of a work of art, I have sought to show in the case of music, the higher and more intellectual appreciations of which are distinctly affected by the successive and transient nature of tonic impressions. Further, one would require to determine the scope which each species and sub-variety of the arts offers for the realization of a large and various delight, sensuous, intellectual and emotional. Finally, the several arts should be compared with respect to their capability of gratifying the highest modes of æsthetic susceptibilities in the order of development. Thus, one would consider any differences among them in the power of reviving the deeper and more complex æsthetic senti-

ments, those which involve the largest number of elements, and the widest range of ideal reproduction. One would seek, too, to estimate their relative powers of gratifying the most finely discriminative modes of æsthetic sensibility, such as the sentiment for beauty of form in its more refined varieties, the more penetrating and subtle kind of imagination, and the cultivated and intellectually discerning sentiment for artistic truth.*

In conclusion it may be well just to revert to the relation of a system of æsthetics, as thus conceived, to concrete criticism. As we have seen, æsthetics seeks a final standard of art value, and aims at subsuming all possible effects of art under the most general conceptions. Further, while endeavouring to find a scientific basis for the canons of art, it is no less concerned in maintaining the necessary limitations and relativity of these canons. The critic, on the other hand, has to judge promptly on a new individual work, and is thrown very much on the particular impression which it may happen to have produced on his own mind. But are his opinions to be perfectly independent of æsthetic doctrine? Scarcely. If it does nothing else, a study of the deepest principles of art may help him to be less dogmatic, to qualify by a deeper reflection the best judgment which a few minutes' observation may have produced. It will teach him that every great work of art is a many-sided complexity, appealing to numerous shades of feeling, all of which can scarcely coexsist in full insensity in a single mind. It will suggest to him that because of this greater complexity in the higher æsthetic sentiments, a less complete measure of agreement is to be looked for among the opinions of the cultivated than among the crude admirations of the unreflective. That is to say, it will check all undue subjectivity of critical judgment. Not only so, it will help to keep present to his mind the idea of a *summum pulchrum*, a lofty ideal standard, both for art as a whole and for each of its varieties, and so will tend to give an elevated ideal direction to his criticism. Finally, as I have sought to show, it will supply him with a certain number of definite principles, which he will employ, not mechanically, ignorant of their real basis in the laws of human nature, but with a full recognition of their origin and of

* Many attempts have been made by the German æstheticians, to classify the arts, the principles of division being as diverse as the ruling ideas of the systems themselves. Perhaps those of Kant, Schelling, Solger, Hegel and Vischer are the most complete, though some of these schemes are, as Schasler has well shown, far from logical, while others, as, for instance, that of Schelling, is simply a curiosity in intellectual abstraction.

the extent of their validity. By virtue of such intelligence the ready and effective critic would grow into the philosophic critic, and his judgments would acquire a real weight with thoughtful minds, appearing no longer as the caprices of an inscrutable, subjective taste, but as the conclusions of a clear, subduing reason. In this way theoretic knowledge will supply the critic with a genuine scientific basis for his inferences, while it teaches him where his reflections pass beyond the reach of sure, objective principle into the region of variable, individual sentiment.

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